How to Select and Apply ASPHALT Roofing Products

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TEXACO
REG. T. M

THE TEXAS COMPANY
U. S. A.

THE POLICY of The Texas Company is to market all its Asphalt Roofing Products through recognized lumber and building material dealers.

This roofing data book is being offered to builders and contractors as customers of these dealers.

A group of homes in Knollcroft, Clifton, N. J., built by Walter J. Herring & Co. of Clifton, N. J., designed by Architect Hugh Everett of Orange, N. J., roofed with Texaco Asphalt Strip Shingles.

Progressive builders know that Texaco Shingles provide smart, colorful appearance . . . fire-safety . . . years of protection and economy . . . plus powerful sales appeal.

ASPHALT ROOFING PRODUCTS

The Most Popular Type of Roofing in America

There is an abundance of evidence that the modern asphalt shingle is the outstanding favorite among all roofing materials for American home owners. For example, the Ross Federal Research Corporation conducted a survey of 2250 homes in 17 major cities. One question asked was: "If you were buying a roof today, would you buy Asphalt Shingles?" And 2203, or 88.5%, answered "YES". Another example: Trade-Ways, Inc., conducted a survey for the Asphalt Shingle and Roofing Institute. Their report stated:

"Our survey of consumers, covering 2500 houses located in 25 cities in 18 states, shows the extent to which preference for Asphalt has been developed. Of the owners of homes now roofed with wood shingles, only 48% say they will re-roof with wood. Of those who own homes roofed with Asphalt, 93% *say they will re-roof with Asphalt.*"

Among important factors in the expressed preference for asphalt shingles are: fire-resistance, color variety, low material cost and low application cost. The fire-resistant factor is particularly important, as evidenced by the increasing number of cities and towns prohibiting the use of wood shingles.

The increasing importance of color has further broadened the market for asphalt shingles, which harmonize with the architectural design and setting of American residences.

Conclusive proof of unusual acceptance is revealed in the fact that approximately 65% of all roofing sold in America is asphalt; all others combined equals about 35%. In other words, asphalt roofing products *(against all other types of roofing combined)* are almost a 2 to 1 favorite.

Only Asphalt Roofing Products Give All 10 Good Roofing Essentials

Only asphalt roofing offers such a wide range of products suitable for every roofing purpose and provides the consumer with every one of these recognized roofing essentials.

Study this table carefully and see how asphalt roofing fits into today's demand for strict economy while providing all other characteristics important to the home owner. With residential building now largely confined to medium and low-cost homes, asphalt shingles are the logical choice. For you they mean low material cost, with speed and economy of application. They fulfill the average home owner's desire to get the most for his money.

CHARACTERISTIC	ASPHALT	WOOD SHINGLES	CORRUGATED STEEL	ASBESTOS SHINGLES	SLATE	CLAY TILE
1. Suitability for every roofing purpose	X					
2. Beauty of color	X			X	X	X
3. Wide choice of color	X			X		X
4. Choice of texture	X			X	X	X
5. Choice of pattern	X	X		X		X
6. Architectural suitability	X	X		X	X	X
7. Fire resistance	X		X	X	X	X
8. Insurance savings	X		X	X	X	X
9. Constant product improvement	X		X	X		
10. Economy	X	X	X			
Combined rating	10	3	4	8	5	7

(Table compiled by Asphalt Roofing Industry Bureau)

The Importance of Good Application

As a builder, you will agree that a successful job requires a good looking and effective roof. What is more, the roof must continue to furnish years of trouble-free service. This requires the use of quality materials by the manufacturer, plus careful application by the builder. Texaco assures the former; you can assure the latter.

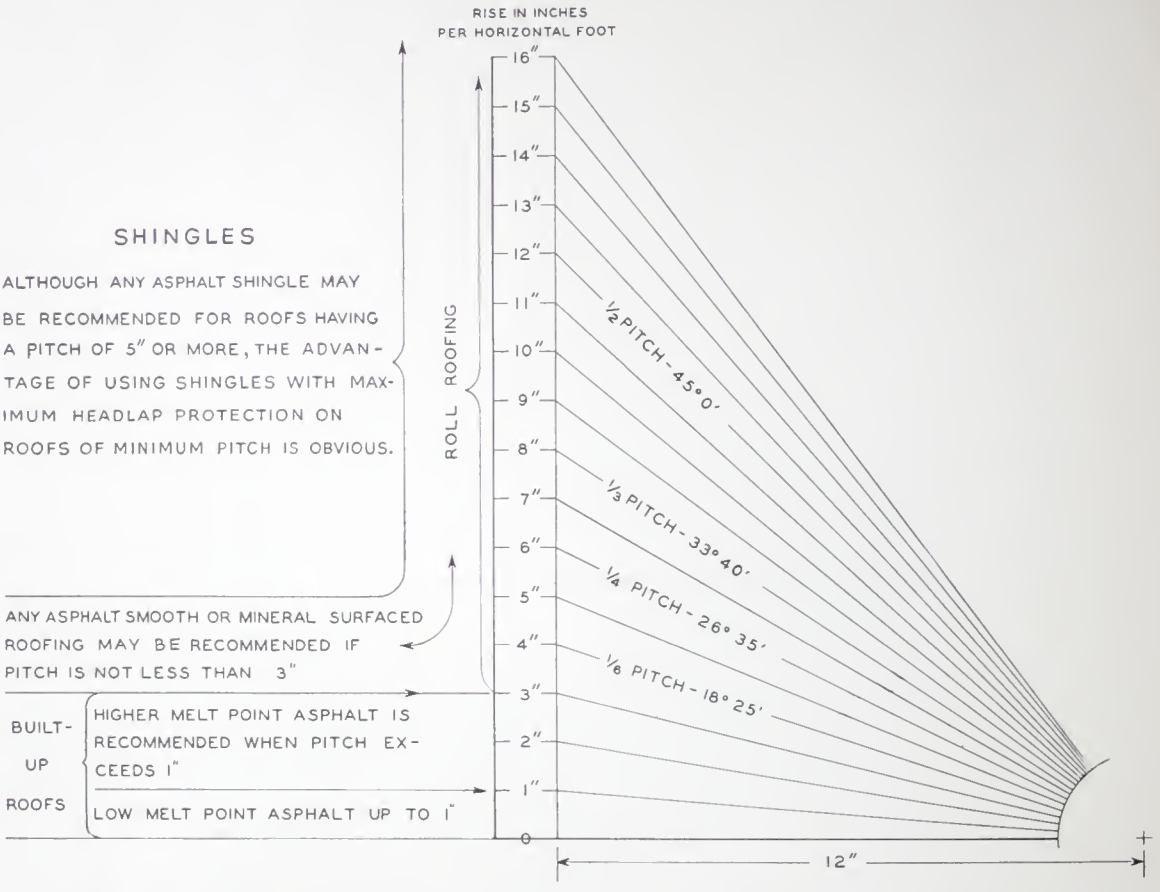
And so, this particular plea is for sound construction, not only in the application of the roofing materials, and in the roof deck, but also in the construction supporting the roof. The best of roofing materials will not provide lasting protection if the roof "foundation" is at fault.

Number one is the lumber of the roof deck. Green lumber can only result in grief for the builder and the home owner. Serious damage to the roofing materials may result when unseasoned boards start to shrink and warp.

Beyond this basic reminder are the many finer points of good application that insure a tight roof and, in turn, a happy home owner.

Methods of application and helpful suggestions contained in the following pages of this working manual have been developed and fully tested for accuracy of detail and soundness of building practice.

How to Pick the Right Type of Product
In Relation to Pitch of Roof



Shingles . . . Roll Roofing . . . or Built-Up Roofing? This handy guide will help you. Note that the pitch (incline or slope) will determine in most cases the type of product to use.

PITCH—5″ and up	See Asphalt Shingles
PITCH—3″ and up	See Roll Roofings
PITCH—0″ to 3″	See Built-Up Roofs

(On following page)

Asphalt Shingles

Shingles are laid in overlapping rows or courses. The laps are not cemented. The ability to shed water therefore depends largely upon the pitch or slope of the roof. Evidently, then, the greater the pitch the less opportunity there is for leaks.

The minimum pitch we recommend for Asphalt Shingles is 5″ and although they are sometimes used on roofs having less pitch, it is with correspondingly greater risk for the owner.

While it is true that, *in the case of any given shingle,* the greater the pitch the less possibility there is of leaks, it is conversely true that, *with a given pitch,* the greater the headlap of the shingle the less possibility there is of leaks.

When Texaco Asphalt Shingles are used for new work Texaco Asphalt Saturated Felt should always be recommended for use under them as specified in our Directions For Applying. Its cost is slight in relation to the additional benefits of insulation and moisture-proofing obtained.

Roll Roofings

Neither the weight per square, the thickness of the felt used in manufacture, nor the type or color of surface finish alters the fact that roll roofings are simply sheets of material laid in such a manner that the edge of one sheet is lapped over and cemented to the edge of the adjacent sheet, with nails driven through these laps to hold the sheets in place. This makes a single thickness covering which effectively resists water and weather, and is relatively inexpensive.

It is obvious, however, that this roof depends almost entirely upon the thoroughness with which the laps are cemented and the holding power of the nails for its resistance against leaks at seams. The character of the wood sheathing under it will therefore have much to do with the service given and freedom from leaks.

Because of the possibility of leaks at seams, roll roofings must have enough pitch to insure good drainage and freedom from water standing on the roof, and for this reason a minimum pitch of 3″ per horizontal foot is recommended. The greater the pitch, of course, the less possibility there is of leaks at seams.

The heavier grades made with thicker, stronger felts and possessing more body will prove more durable and more resistant to tearing from wind strains.

Built-Up Roofs

Recommended in most instances for warehouses, stores, apartment houses, shops, factory buildings, office buildings, etc., having so-called "flat" roofs. Although sometimes employed where the pitch is in excess of 3″, the proportion is small for the following reasons:

First, a Built-Up roof is built up to a substantial weight per square with several layers of asphalt saturated felt, mopped between and on top with hot asphalt. It is then covered with a protective layer of gravel or slag to deflect the sun's rays. This forms a solid, seamless, congealed mass which is impervious to water and weather. This type of roof depends largely upon its own substantial weight to hold it in place, and this weight functions perfectly on a relatively flat surface but less effectively as the pitch is increased over 3″ per horizontal foot.

Second, for ease of construction and maximum durability it is desirable that a low melting point asphalt be used. As the pitch is increased it is necessary to use a higher melting point asphalt to prevent its gradually working down the slope of the roof.

ACKNOWLEDGMENT

To insure the practical value of the material in this roofing data book, to you as a builder, we have obtained criticisms and suggestions from builders, building material dealers and architects in 11 States.

We acknowledge our indebtedness to them and regret that space limitation precludes individual acknowledgment.

We also express appreciation to American Builder & Building Age, Architectural Forum and Practical Builder for their helpful suggestions in connection with the preparation of the section on "How to Estimate Roof Areas."

We are also indebted to the Asphalt Roofing Industry Bureau for valuable assistance.

HOW TO ESTIMATE ROOF AREAS

From the Ground

Every builder knows the importance of an accurate estimate. It often means the difference between getting the job and losing it . . . between a profit and a loss.

A few experienced builders can estimate, with considerable accuracy, the roofing materials required for an average house—without taking measurements.

All others must take measurements and, by some method, calculate thereon the materials required.

Although there are several methods available, we suggest the following method as a means of quickly computing the area to be roofed.

No Climbing on the Roof — No Difficult Calculations

From the ground, with this method, you can easily measure width and length, and determine the roof pitch.

Then by referring to the CONVERSION TABLE, you find the area to be roofed. Regardless of the method used, an outline of the roof, showing dimensions, is helpful. First, then (if blue-print is not available) . . .

STEP 1

Make An Outline of the Roof and Indicate Dimensions

Measure horizontally to edges of eaves and gables. Show all ridges, hips, valleys and dormers.

To obtain dimensions of dormers, and of ridges that do not run the full length of the building, estimate their relationship to doors, windows or sections of the building which may be measured from the ground.

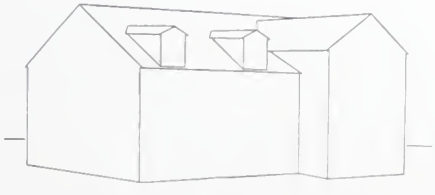


FIG. A

Fig. B represents the roof outline of the building in Fig. A, and will be used as THE EXAMPLE throughout this method.

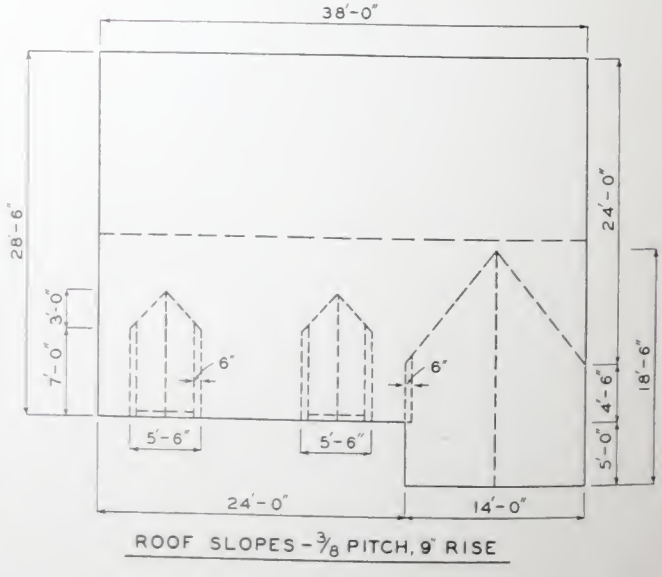


FIG. B

STEP 2

Determine the Pitch of Each Roof Slope

Pitch is the angle of roof slope. It may be obtained with a pitch card or indicator, or with the aid of a zig-zag rule. It is expressed in fractions, or by the number of inches of rise per foot of horizontal run.

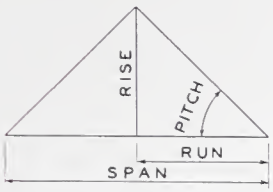


FIG. C

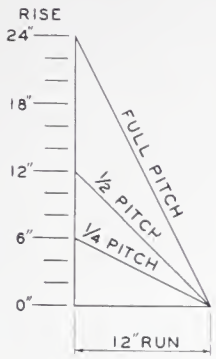


FIG. D

How to Determine the Pitch With a Zig-zag Rule

Form a triangle with the rule, being sure the base of rule is horizontal. Use inside edges (A) and (B) of rule to align with gable edges.

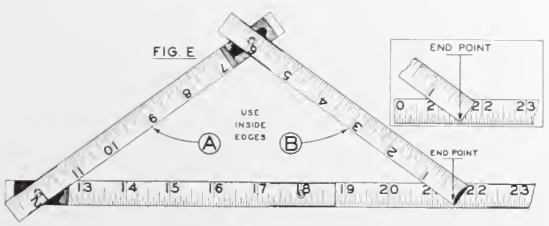


FIG. E

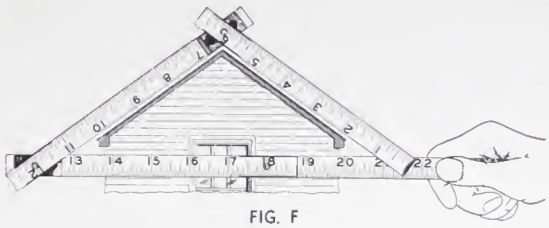


FIG. F

Stand across the street or road from the building. Hold rule at arm's length and align with roof slopes as shown on Figure F.

Take reading under end of point of rule (Fig. E). Locate on Fig. G the point nearest your reading. Below this reading you will find the pitch and rise.

If roof slopes have different pitch, align rule edge (A) to left slope and take reading, then align rule edge (B) to right slope and take reading. Keep base of rule *horizontal*.

Indicate pitch and rise on your roof outline, as shown in Fig. B.

STEP 3

Compute Horizontal Area Under the Roof

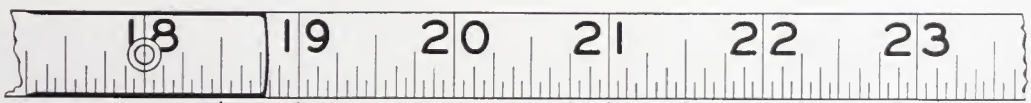
To the experienced builder this step is very easy. For those with less experience, it is explained here in detail.

FIRST: Compute the Area Within the Outside Dimensions

Multiply length by width. If building is irregular, divide into sections and compute each section separately. If main roof slopes are of different pitch, divide your outline to show the areas under each pitch and compute each area separately.

EXAMPLE: (Fig. B)

38′ × 28½′ = 1083 sq. ft.
14′ × 5′ = 70 " "
1153 " "



RULE READING		18½	19	19¾	20⅜	20¾	21	21½	21⅞	22¼	22⅝	22⅞	23¼
PITCH	DEGREES	56°19′	53°8′	49°24′	45°	42°31′	39°48′	36°52′	33°41′	30°16′	26°34′	22°37′	18°26′
	FRACTIONS	3/4	2/3	7/12	1/2	11/24	5/12	3/8	1/3	7/24	1/4	5/24	1/6
RISE	INCHES PER FT. OF HORIZ. RUN	18"	16"	14"	12"	11"	10"	9"	8"	7"	6"	5"	4"

FIG. G

NEXT: Compute the Area Under the Duplications

A duplication is that portion of one roof above another.

Duplications on the EXAMPLE (Fig. B) are the dormer gable edges, dormer eaves, and a part of the front gable eave opposite the right dormer. Horizontal width of duplications (this should be noted on your outline of the roof) is 6", or ½ foot. (Fig. B)

Multiply the horizontal length of duplications by their horizontal width, *in feet*. (The dormer corners may thus be computed twice, but this is unimportant to the final result).

EXAMPLE: (Fig. B)

First dormer:	7′+5½′+7′=19½ lin. ft.
Next dormer	7′+5½′+7′=19½ " "
Part of front gable eave....	4½ " "
Total duplications	43½ " "

43½′×½′=approx. 22 sq. ft. under the duplications.

THEN: Total the Horizontal Areas

Add the area under main roof to the area under duplications.

If main roof slopes are of different pitch, add to the area under each pitch the area for the duplications occurring over that pitch.

EXAMPLE: (Fig. B)

Under main roof	1153 sq. ft.
Under duplications	22 " "
Total horizontal areas	1175 " "

STEP 4

Find Roof Area On the Conversion Table

Over a given horizontal area, at a given pitch, a roof will *always* contain the SAME NUMBER OF SQUARE FEET (excluding duplications), regardless of its design.

Assume the usual gable roof, ⅜ pitch, over 500 sq. ft. of horizontal area. The roof area will measure 625 sq. ft.

Assume the gable roof is replaced with a hip roof, ⅜ pitch. Again, the roof will measure 625 sq. ft.

Assume any number of dormers, having ⅜ pitch roofs, are added. The roof area will still measure 625 sq. ft., excluding duplications.

To find the area of any roof, then, determine the pitch, figure the horizontal area and refer to the CONVERSION TABLE.

Opposite the figures in column headed "Horizontal," find sq. ft. of roof in the column under the pitch involved.

EXAMPLE: (Fig. B)

Total horizontal area.....1175 sq.ft.

On CONVERSION TABLE, under 9" rise, ⅜ pitch, we find:

Opposite	1000.....	1250.0 sq. ft.
"	100.....	125.0 " "
"	70.....	87.5 " "
"	5.....	6.3 " "
	1175.....	1468.8 " "

STEP 5

Allow for Dormers of Different Pitch

Omit Step 5 if there are no dormers, or if there are dormers having roofs of the same pitch as the main roof.

If there are dormers having pitch different than the main roof, some allowance should be made since the Step 4 total includes the roof area through which the dormers project, plus the dormer duplications, *computed on the pitch of the main roof.*

If the pitch of dormer roof is greater than pitch of main roof, the dormer roof area will be greater than has been included in Step 4.

If the pitch of dormer roof is less than pitch of main roof, the dormer roof area will be less than has been included in Step 4.

To determine the allowance to be made, then,

FIRST: Compute Horizontal Area Under the Dormers

On your outline (Step 1) the usual types of dormers will appear as rectangles, triangles, or a combination of both.

To compute the area of the triangle, multiply the base by half the altitude.

THEN: Refer to Conversion Table for Areas

Opposite the figures in column headed "Horizontal," find area of dormer roof in column under the pitch of dormer. Then, in column under pitch of main roof, find area previously included in Step 4.

The difference between the two areas is the allowance to be made, and the Step 4 total should be increased or decreased accordingly.

CONVERSION TABLE

RISE (Inches per foot of horizontal run)	4″	5″	6″	7″	8″	9″	10″	11″	12″	14″	16″	18″
PITCH (Degrees)	18° 26′	22° 37′	26° 34′	30° 16′	33° 41′	36° 52′	39° 48′	42° 31′	45°	49° 24′	53° 8′	56° 19′
PITCH (Fractions)	1/6	5/24	1/4	7/24	1/3	3/8	5/12	11/24	1/2	7/12	2/3	3/4
CONVERSION FACTOR	1.054	1.083	1.118	1.157	1.202	1.250	1.302	1.356	1.414	1.537	1.667	1.803
HORIZONTAL (Area in Sq. Ft. or Length in Feet)												
1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.7	1.8
2	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.7	2.8	3.1	3.3	3.6
3	3.2	3.2	3.4	3.5	3.6	3.8	3.9	4.1	4.2	4.6	5.0	5.4
4	4.2	4.3	4.5	4.6	4.8	5.0	5.2	5.4	5.7	6.1	6.7	7.2
5	5.3	5.4	5.6	5.8	6.0	6.3	6.5	6.8	7.1	7.7	8.3	9.0
6	6.3	6.5	6.7	6.9	7.2	7.5	7.8	8.1	8.5	9.2	10.0	10.8
7	7.4	7.6	7.8	8.1	8.4	8.8	9.1	9.5	9.9	10.8	11.7	12.6
8	8.4	8.7	8.9	9.3	9.6	10.0	10.4	10.8	11.3	12.3	13.3	14.4
9	9.5	9.7	10.1	10.4	10.8	11.3	11.7	12.2	12.7	13.8	15.0	16.2
10	10.5	10.8	11.2	11.6	12.0	12.5	13.0	13.6	14.1	15.4	16.7	18.0
20	21.1	21.7	22.4	23.1	24.0	25.0	26.0	27.1	28.3	30.7	33.3	36.1
30	31.6	32.5	33.5	34.7	36.1	37.5	39.1	40.7	42.4	46.1	50.0	54.1
40	42.2	43.3	44.7	46.3	48.1	50.0	52.1	54.2	56.6	61.5	66.7	72.1
50	52.7	54.2	55.9	57.8	60.1	62.5	65.1	67.8	70.7	76.9	83.4	90.2
60	63.2	65.0	67.1	69.4	72.1	75.0	78.1	81.4	84.8	92.2	100.0	108.2
70	73.8	75.8	78.3	81.0	84.1	87.5	91.1	94.9	99.0	107.6	116.7	126.2
80	84.3	86.6	89.4	92.6	96.2	100.0	104.2	108.5	113.1	123.0	133.4	144.2
90	94.9	97.5	100.6	104.1	108.2	112.5	117.2	122.0	127.3	138.3	150.0	162.3
100	105.4	108.3	111.8	115.7	120.2	125.0	130.2	135.6	141.4	153.7	166.7	180.3
200	210.8	216.6	223.6	231.4	240.4	250.0	260.4	271.2	282.8	307.4	333.4	360.6
300	316.2	324.9	335.4	347.1	360.6	375.0	390.6	406.8	424.2	461.1	500.1	540.9
400	421.6	433.2	447.2	462.8	480.8	500.0	520.8	542.4	565.6	614.8	666.8	721.2
500	527.0	541.5	559.0	578.5	601.0	625.0	651.0	678.0	707.0	768.5	833.5	901.5
600	632.4	649.8	670.8	694.2	721.2	750.0	781.2	813.6	848.4	922.2	1000.2	1081.8
700	737.8	758.1	782.6	809.9	841.4	875.0	911.4	949.2	989.8	1075.9	1166.9	1262.1
800	843.2	864.4	894.4	925.6	961.6	1000.0	1041.6	1084.8	1131.2	1229.6	1333.6	1442.4
900	948.6	974.7	1006.2	1041.3	1081.8	1125.0	1171.8	1220.4	1272.6	1383.3	1500.3	1622.7
1000	1054.0	1083.0	1118.0	1157.0	1202.0	1250.0	1302.0	1356.0	1414.0	1537.0	1667.0	1803.0

EXAMPLE: (Fig. B)

As the pitch is the same for dormer roofs and main roof, the area for each dormer is identical with the dormer roof area included in Step 4.

Since no allowance is required, the Step 4 total remains 1468.8 sq. ft.

The area to be roofed has now been determined. Before ordering materials, however, we should determine the lineal feet of Starter Strip, Edging Strip, Ridge Shingles and Hip and Valley material needed.

STEP 6

Determine Lineal Feet of Starter Strip

Total the lineal feet of all horizontal eaves.

EXAMPLE: (Fig. B)

Front eave, less dormer widths	13	lin. ft.
Front gable eaves (2 x 9½′)	19	" "
Back eave	38	" "
1st Dormer (2 x 7′)	14	" "
2nd Dormer (2 x 7′)	14	" "
Total Horizontal Eaves	98	" "

STEP 7

Determine Lineal Feet of Edging Strip

Although metal edging strip is recommended to improve appearance, its use may be prevented by war conditions. If edging strip is not used, omit Step 7.

FIRST: Determine the Horizontal Width of Gables

Total the widths for each pitch involved.

If roof slopes have different pitch, total separately the horizontal runs for each pitch instead of totaling the gable widths.

EXAMPLE: (Fig. B)

Front gable	14	lin. ft.
Left end gable	28½	" "
Right end gable	24	" "
Dormer gables (2 x 5½′)	11	" "
Total Gable Widths	77½	" "

NEXT: Find Lineal Feet of Gable Edge on Conversion Table

Opposite the figures in column headed "Horizontal," find lineal feet of gable edge in column under the pitch involved.

EXAMPLE: (Fig. B)

Using next full foot (78′ instead of 77½′) we find on CONVERSION TABLE, under 9″ rise, ⅜ pitch:

Opposite 70.....	87.5 lin. ft.	
" 8.....	8.8 " "	
78	96.3 lin. ft. of gable edge	

THEN: Determine Edging Strip Required

Add lineal feet of gable edge to lineal feet of horizontal eaves (Step 6).

EXAMPLE: (Fig. B)

Gable edge	96.3	lin. ft.
Horizontal eaves	98.0	" "
Edging Strip Required.....	194.3	" "

STEP 8

Determine Lineal Feet of Ridge Material

Shingles are usually used for ridges—either Standard Individuals, Giant Individuals, or pieces cut from strip shingles. The quantity of material will therefore vary according to the product, but here is a safe way to estimate.

FIRST: Total Lineal Feet of All Ridges

EXAMPLE: (Fig. B)

Main ridge	38	lin ft.
Front gable ridge.....	18½	" "
Dormer ridges (2 x 10′).....	20	" "
Total Ridges	76½	" "

THEN: Compute Quantity of Material

Ridge shingles should be exposed 5″ to the weather. Each lineal foot of ridge will therefore require 2.4 shingles, regardless of the type of shingle. Multiply by 2.4 to determine number of shingles.

EXAMPLE: (Fig. B)

76½ × 2.4 = 183.6 shingles required.

STEP 9

Determine Quantity of Hip and Valley Materials Required

Calculating Hip and Valley lengths is often difficult but with this method it can be done easily and quickly.

FIRST: Determine Horizontal Run of Common Rafter

Hips: See Fig. H Valleys: See Fig. J

FIG. H

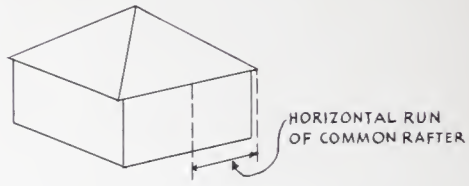
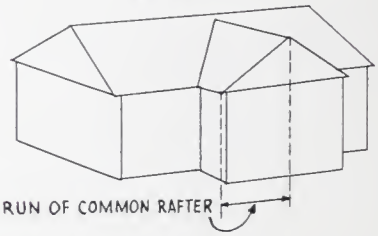


FIG. J



If hip or valley is between roof slopes of different pitch, determine common rafter run for each pitch.

Total the runs for each pitch involved.

EXAMPLE: (Fig. B)

Horizontal run of common rafter on front gable is 7′, or half the gable width. Run for each dormer is likewise half the dormer gable width.

14′ + 5½′ + 5½′ = 25′ of horizontal runs.

NEXT: Find Lengths on Hip and Valley Table

Opposite the figures in column headed "Horizontal," find lineal feet of hips or valleys in column under the pitch involved.

If hip or valley is between roof slopes of different pitch, find length in the column under each pitch involved; add the results and divide by 2 for an approximate length of the hip or valley.

EXAMPLE: (Fig. B)

Total horizontal runs.....25 lin. ft.

On HIP and VALLEY TABLE, under ⅜ pitch, 9″ rise, we find:

Opposite 20.....	32 lin. ft.	
" 5.....	8 " "	
25	40 lin. ft. of valleys	

HIP AND VALLEY TABLE

RISE {Inches per foot of horizontal run}	4″	5″	6″	7″	8″	9″	10″	11″	12″	14″	16″	18″
PITCH {Degrees}	18° 26′	22° 37′	26° 34′	30° 16′	33° 41′	36° 52′	39° 48′	42° 31′	45°	49° 24′	53° 8′	56° 19′
{Fractions}	1/6	5/24	1/4	7/24	1/3	3/8	5/12	11/24	1/2	7/12	2/3	3/4
CONVERSION FACTOR	1.452	1.474	1.500	1.524	1.564	1.600	1.642	1.684	1.732	1.814	1.944	2.062
HORIZONTAL (Length in Feet)												
1	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.8	1.9	2.1
2	2.9	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.9	4.1
3	4.4	4.4	4.5	4.6	4.7	4.8	4.9	5.1	5.2	5.4	5.8	6.2
4	5.8	5.9	6.0	6.1	6.3	6.4	6.6	6.7	6.9	7.3	7.8	8.2
5	7.3	7.4	7.5	7.6	7.8	8.0	8.2	8.4	8.7	9.1	9.7	10.3
6	8.7	8.8	9.0	9.1	9.4	9.6	9.9	10.1	10.4	10.9	11.7	12.4
7	10.2	10.3	10.5	10.7	10.9	11.2	11.5	11.8	12.1	12.7	13.6	14.4
8	11.6	11.8	12.0	12.2	12.5	12.8	13.1	13.5	13.9	14.5	15.6	16.5
9	13.1	13.3	13.5	13.7	14.1	14.4	14.8	15.2	15.6	16.3	17.5	18.6
10	14.5	14.7	15.0	15.2	15.6	16.0	16.4	16.8	17.3	18.1	19.4	20.6
20	29.0	29.5	30.0	30.5	31.3	32.0	32.8	33.7	34.6	36.3	38.9	41.2
30	43.6	44.2	45.0	45.7	46.9	48.0	49.3	50.5	52.0	54.4	58.3	61.9
40	58.1	59.0	60.0	61.0	62.6	64.0	65.7	67.4	69.3	72.6	77.8	82.5
50	72.6	73.7	75.0	76.2	78.2	80.0	82.1	84.2	86.6	90.7	97.2	103.1
60	87.1	88.4	90.0	91.4	93.8	96.0	98.5	101.0	103.9	108.8	116.6	123.7
70	101.6	103.2	105.0	106.7	109.5	112.0	114.9	117.9	121.2	127.0	136.1	144.3
80	116.2	117.9	120.0	121.9	125.1	128.0	131.4	134.7	138.6	145.1	155.5	165.0
90	130.7	132.7	135.0	137.2	140.8	144.0	147.8	151.6	155.9	163.3	175.0	185.6
100	145.2	147.4	150.0	152.4	156.4	160.0	164.2	168.4	173.2	181.4	194.4	206.2

(Step 9 Continued)

THEN: Compute Quantity of Materials

Hips: If shingles are used and exposed approximately 5″, multiply lineal feet of hips by 2.4 to determine number of shingles.

Valleys: If 36″ mineral surfaced roll roofing is used as recommended, multiply lineal feet of valleys by 1.5 to determine quantity of roofing.

EXAMPLE: (Fig. B)

Total valleys ..... 40 lin. ft.
40 × 1.5 = 60 lin. ft. of roofing required.

The final step is . . .

STEP 10

List Materials Required, Allowing for Waste

Following is list of materials for the building used as the EXAMPLE.

ASPHALT SATURATED FELT:
(Step 5)—1468.8 sq. ft., or 14.7 squares. Furnished in 4-square rolls. Order 4 rolls.

12″ THICK BUTT STRIP SHINGLES:
(Step 5)—1468.8 sq. ft., or 14.7 squares.

18″ MINERAL SURFACED STARTER STRIP:
(Step 6)—98 lin. ft. Furnished in rolls containing 36 lin. ft. Order 3 rolls.

EDGING STRIP:
(Step 7)—194.3 lin. ft.

RIDGE SHINGLES:
(Step 8)—183 shingles, cut from 12″ Thick Butt Strips. Each strip contains 3 shingles. 183 ÷ 3 = 61 strips, or 0.76 squares.

VALLEY STRIP:
(Step 9)—60 lin. ft. of 90-lb. Mineral Surfaced Roll Roofing. Furnished in rolls containing 36 lin. ft. Order 2 rolls.

WASTE:

The difference between actual requirements and quantities to be ordered will, in this instance, provide some allowance for waste on Felt, Starter Strip and Valley Strip.

For Thick Butt Strip Shingles, of which 14.7 plus 0.76, or 15.46 squares, are required, allowance for waste must be made.

The percent to allow for waste must be based on your experience rather than on any formula—because the experienced builder more fully utilizes the material and therefore has less waste. Also, the percentage of waste increases with an increase in the number of dormers, valleys, etc.

It is considered good practice to leave the unused portion of the last bundle of shingles with the home-owner to provide for replacements in the event of damage.

NAILS:
See Nail Table on following page.

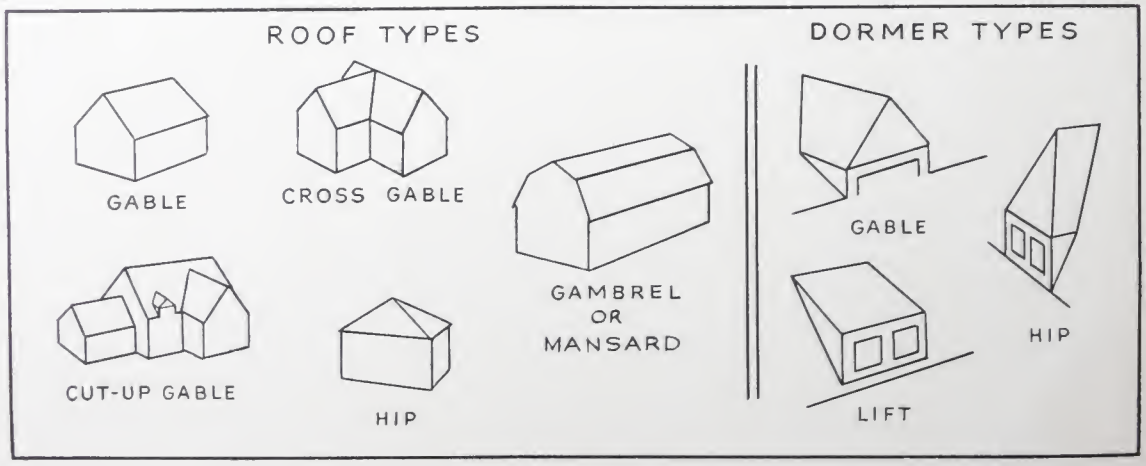
How to Estimate Quantity of Nails Required—

This Handy Table Tells You at a Glance

Type of Shingle	Shingles Per Square	Nails Per Shingle	Nails Per Square	New Construction or Re-Roofing	Nail Length	(*) Approx. Number Nails Per Lb.			Number Lbs. Required Per Square		
						10½ Gauge 7/16" Head	11 Gauge 7/16" Head	12 Gauge 3/8" Head	10½ Gauge 7/16" Head	11 Gauge 7/16" Head	12 Gauge 3/8" Head
12" and 15" THICK BUTTS	80	4	320	New Construction	1"	248	267	393	1.3	1.2	.8
				Re-Roofing	1¾"	161	168	228	2.0	1.9	1.4
10" and 12½" SQUARE BUTTS	100	5	500	New Construction	1"	248	267	393	2.0	1.9	1.3
				Re-roofing	1¾"	161	168	228	3.1	3.0	2.2
11⅓" and 12⅓" HEXAGONS	86	4	344	New Construction	1"	248	267	393	1.4	1.3	.9
				Re-Roofing	1¾"	161	168	228	2.1	2.0	1.5
12½" HEXAGONS	100	4	400	New Construction	1"	248	267	393	1.6	1.5	1.0
				Re-Roofing	1¾"	161	168	228	2.5	2.4	1.8
GIANT INDIVIDUALS	228	2	456	New Construction	1¼"	216	229	311	2.1	2.0	1.5
				Re-Roofing	1¾"	161	168	228	2.8	2.7	2.0
STANDARD INDIVIDUALS	380	2	760	New Construction	1¼"	216	229	311	3.5	3.3	2.5
				Re-Roofing	1¾"	161	168	228	4.7	4.5	3.3
GIANT DUTCH LAPS	114	2	228	Not recommended for new construction.							
				Re-Roofing	1¾"	161	168	228	1.4	1.3	1.0
STA-FAST SHINGLES	82	2	164	Not recommended for new construction.							
				Re-Roofing	1¾"	161	168	228	1.0	1.0	.7

(*) Approximate number of nails per pound is standard count, as used by several nail manufacturers.

We recommend *galvanized, barbed* roofing nails:
10½ gauge with 7/16" diameter heads
11 gauge with 7/16" diameter heads
12 gauge with 3/8" diameter heads



Helpful Hints For You

SAFETY. All men working on any roof should wear rubber soled shoes.

No roofing job should be started without adequate insurance protection for all involved.

Materials, tools and equipment should never be dropped from the roof. Ladders, other equipment and supplies should be so placed at night as to avoid accidents.

Watch out for loose nails on the roof.

Never back up when unrolling roofing.

Play safe—whenever roof slope makes footing dangerous, work from a securely fastened rope.

Use extreme care in every step of handling hot asphalt.

SHINGLES. Apply first courses of shingles from staging on ladders. Place ladders against the eaves at a safe angle of 70 degrees. Set ladders firmly so that they cannot slip.

Apply succeeding courses from staging. Suspend 2 x 4's with metal straps, placing the straps around the 2 x 4's and nailing securely to the roof deck.

ROLL ROOFING. Laps should face away from direction of prevailing wind. All seams should be cemented. In high wind areas apply roll roofing in short lengths (preferably 12 feet) with at least a 6-inch end lap.

BUILT-UP ROOFS. Don't guess at the temperature of your mopping asphalt. Use a thermometer.

Wind Resistance Precautions

Flexibility is an important advantage possessed by asphalt shingles. This is particularly appreciated when roofing any curved surface. It is the feature which makes asphalt shingles easy and practical to use for hips and ridges. In using a flexible shingle the following precautions should be carefully observed:

Shingles Must Not Be Over-Exposed

We specify the exposure for which the shingle is designed. Any increase in this exposure decreases the expected headlap and protection, and will, furthermore, reduce the ability of the shingle to resist high winds.

Nails Must Be Placed as Specified

Because asphalt shingles are flexible, nails must not be placed higher than specified. Doing so increases the possibility of damage from high winds. (Follow Directions For Applying).

In Areas Subject to Hurricanes

In hurricane areas, the use of Texaco Plastic Asbestos Roof Cement under the shingles will result in a "cemented-down" roof. An alternate method is to secure the butts of the shingles by the use of copper clips or staples.

Don't Overlook the Profits in Re-Roofing . . .

Re-Roofing can be a steady source of revenue when normal building is off.

Re-Roofing Particularly Timely

Today, people have money to spend, to repair and maintain their homes, protect their building investments, *put on new roofs.*

Prospects Easy to Locate

Sooner or later, the average house must have a new roof. A market always exists; a good, substantial market that can mean profits for any alert builder with a reputation for good construction. Finding prospects is simple, as the condition of the roof is readily discernible.

House-to-house solicitation is necessary. Try it in at least one of the older residential areas in your community. See for yourself how quickly re-roofing prospects can be discovered.

Importance of Accurate Estimating

Estimating re-roofing jobs should be thorough so that nothing essential to the job is overlooked. The original bid should be specific and should include everything necessary for a first class job. "Extras" are disturbing to customers.

This book contains a section on estimating of roof areas which should be studied carefully.

Importance of Good Application

Good application is just as important in re-roofing as in new construction. Most important of all—is a sound foundation. Only sound roof boards will hold the longer roofing nails required when re-roofing over old shingles.

Starting with a firm foundation and then paying attention to details will pay dividends in satisfied customers. And—satisfied customers make mighty good free advertising.

Texaco Asphalt Shingles of all types are suitable for application over old roofs. Texaco Sta-Fast Shingles and Texaco Dutch Lap Shingles are designed for low cost jobs.

Re-Roofing Suggestions

In high wind areas, when applying shingles that are not normally fastened with staples or clips, we recommend the use of Texaco Plastic Asbestos Roof Cement under each shingle.

When re-roofing over wood shingles, the appearance of the finished roof can be improved by the use of beveled wood strips nailed just below the butts of the old shingles.

Replace or nail down all curled shingles and replace missing ones. Asphalt shingles are not recommended for use over badly curled or rotted shingles.

If old wood shingles are removed, leave a course of wood shingles at the eaves, to serve as a drip edge under the first course of new asphalt shingles, and to improve appearance.

Consider the Farm Market!

For some time to come it is probable that the principal new construction outside of defense housing and military construction, will be *on the farm.* So — take a good look at farm income.

Farmers Are Making Money

Because food production is so vital to our national economy, it is being stimulated and encouraged, with the result that farmers are making money. Indications are they will continue to make a great deal of money.

Look at the chart below. *Cash farm income for marketings and Government payments for 1942 may approach 13 billion dollars.* This is probably a conservative estimate.

Highest Income Since 1920

This (13 billion) would be the highest farm income since 1920 and 2 billion more than 1941. Now—think of this increase in terms of spending power, for that is just what it is, tremendous spending power in the hands of a group that has been rather short of any extra cash up until the last year or two.

Forget the billions. They don't mean much to us as individuals. Just think of this new prosperity for the farmers *in the rural areas near you.*

Prosperity Brings Many Needs

Agricultural price trends are favorable to the farmer. Increased crops, increased poultry, dairy and live stock production mean larger and better facilities; barns, sheds, silos are needed. Buildings must be kept in good repair. The lean years saw these properties run down and neglected. Prosperity means they will be added to and properly maintained.

Too Good a Market to Overlook

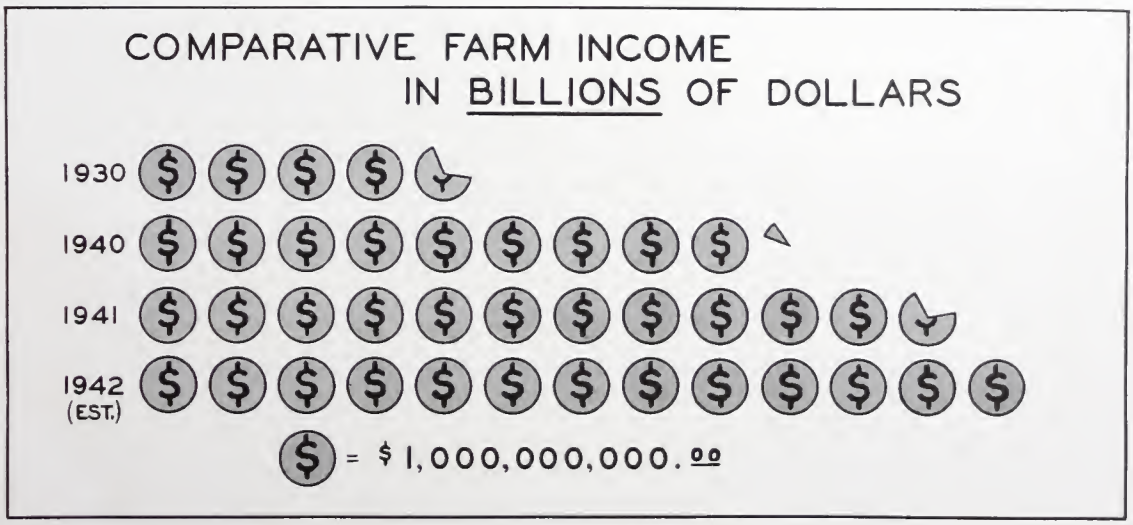
The farm market is one that many builders have overlooked. It is now too good a market to pass up. When some of your normal construction is curtailed, reach out into the rural areas. Farmers are enjoying a boom. And it is not a boom era that will end suddenly but one, according to authorities, that will probably continue for several years. This means farm prosperity and huge spending power.

A Rare Opportunity

Here is an opportunity for you to find new customers. You can offer a valuable service to the farmer. He is usually a shrewd and careful buyer.

Asphalt Roofing Fits the Farm Market

Quite logically asphalt roofing products fit perfectly in this rural market. Either in new construction or in the hundred and one jobs of repairing and modernizing of various farm buildings, houses and such, asphalt roll roofing and asphalt shingles give the farmer everything he wants in good roofing—service, protection, appearance and economy.



Source: Bureau of Agricultural Economics, United States Department of Agriculture.

How Asphalt Roofing Products Are Made

The Felt Base

The service obtained from any asphalt shingle or roll roofing largely depends upon the thickness, weight and quality of the dry felt used in its manufacture. The dry felt base is the fabric which carries the waterproofing and supplies necessary physical strength to the finished product.

High grade felts are made largely from cotton and other rags, selected and graded for this purpose. Such felts are highly absorbent and sufficiently porous to permit maximum saturation.

Only FELT BASE of the best quality is used in Shingles and Roll Roofings bearing the Texaco trademark. Such felt will absorb nearly TWICE its own weight of asphalt saturant.

The Asphalt Saturant

Although felt is the necessary fabric base, asphalt (the world's oldest and most reliable waterproofing agent) is the element which waterproofs and preserves the felt base. For highest quality roofings the saturant must be of such characteristics that *each fibre* of the felt can *absorb*, and then be *covered by*, this waterproofing element. Such a saturant can be produced only by (1) selection of just such crudes as possess the most desirable characteristics and (2) scientifically refining these crudes to produce a superior product for the intended use.

To insure *maximum* absorption of the asphalt by the felt and to fill spaces between the fibres as completely as possible (thus excluding moisture), Texaco Asphalt is refined to *OVER 99½% PURE BITUMEN.*

In the manufacture of roofing a continuous sheet of dry felt travels for a distance of over 100 feet through hot liquid asphalt saturant, maintained at a temperature of approximately 400°F.

Asphalt Saturated Felt

The saturated sheet is cooled on loopers, cut into desired lengths, wound into rolls, wrapped and labeled. It is then ready for shipment as "Asphalt Saturated Felt."

The Asphalt Coating

The principal use of asphalt saturated felt is in the construction of Built-Up Roofs. The felt is adequately protected against the elements by moppings of hot asphalt between and over the sheets, and by a surface covering of gravel, slag or (in some cases) mineral surfaced roll roofing.

In the manufacture of roll roofings, however, this protection must be made a part of the finished product . . . and must be material which will serve as a shield against the baking and drying effect of the sun's ultra-violet rays. This is done by coating the asphalt saturated felt, while very hot, with another form of asphalt . . . on both TOP *AND* BOTTOM of the sheet.

For Texaco Shingles and Roll Roofings, this coating is of specially-tempered, high-melting point roofing asphalt, produced by blending asphalts having the necessary resistance to both extreme heat and extreme cold. This water-impervious, durable coating insures years of protection for the saturated felt base.

The coating operation is vital because the thoroughness with which the asphalt saturant is sealed within the felt determines the durability of the roofing . . . *for as long as the felt remains saturated, the sheet will turn water.*

Thus, asphalt serves in one form (saturant) as the "life-blood" of the product and, in another form (coating) to protect that life-blood against the elements which seek to destroy it.

Smooth Surfaced Roll Roofings

The essential difference between our Texaco, Tiger and Nutex Roll Roofings is in the weight and quality of the dry felt used and the resulting quantity of asphalt saturant absorbed and retained. There is little difference in the thickness of the asphalt coating, since an adequate protective coating is applied to all our roll roofings. There is another factor of importance, however—the finish or surfacing.

Because of the sticky, cohesive nature of asphalt, it is necessary to "finish" the sheet with a substance which will prevent sticking in the roll. Among the several types of finish materials, talc and mica are the most suitable for the purpose.

Talc serves as an excellent finish if a light-colored talc is selected (to improve the finished appearance) and the talc granules are large enough to permit their being embedded in the coating to serve as protection against the disintegrating ultra-violet rays of the sun.

For our finest Roll Roofing (TEXACO) we use a clean, non-staining, light-colored, coarse-grain talc which produces a decorative and protective finish.

Flake Mica also is a very desirable finish. The flakes are flat and tend to cover the asphalt coating as scales cover a fish. In addition to this protection, mica is practically indestructible, is moisture-proof and fireproof. Mica-finished roofings are popular with consumers. For these reasons, our medium-priced Roofing (TIGER) is finished with flake mica.

Our lowest-priced, competitive-grade Roll Roofing (NUTEX) is finished with a semi-coarse talc which adheres well, and which experience and tests have shown to provide good protection to the product after it has been applied to the roof.

These finishes are applied to both sides of the freshly-coated sheet while still hot. The finished roofing is then cooled, cut into desired lengths, rolled, wrapped and labeled. Next the accessories are inserted, the rolls are headed and Smooth Surfaced Roll Roofings are ready for shipment.

Mineral Surfacing

For three important reasons the greater percentage of all asphalt roofing products sold today are mineral surfaced.

(1) Mineral surfacing protects the asphalt coating by deflecting the baking and drying effect of the sun's ultra-violet rays—which are injurious to exposed and unprotected asphalt. The long-wearing mineral granules also serve to protect the asphalt from the ravages of ice and snow.

(2) Mineral granules provide a colorful surface to blend with the color, architecture and setting of the building. This in many instances is the deciding factor in consumer preference.

(3) Mineral granules contribute to the fire-resistant quality which is essential in modern roofings.

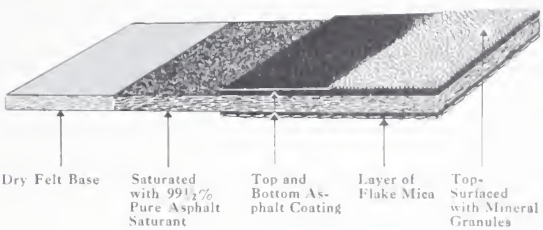
In the manufacture of Texaco Mineral Surfaced Shingles and Roofings, genuine, colorful, long-wearing mineral granules are applied evenly so as to completely cover the hot liquid asphalt coating. These granules are then embedded in the Asphalt Coating by gentle pressure against the smoothing drums. Cooling solidifies the coating, thereby firmly holding the embedded granules. (In making Selvage Edge Mineral Surfaced Roofing a tissue tape is used to cover the asphalt coating, thus preventing the granules from becoming embedded in this portion of the sheet.)

The granules are usually crushed slate or rock, carefully graded for size. The natural colors (Red, Gray-Green and Blue-Black) are quarried. Others are produced by baking or fusing the coloring on the granules at very high temperatures. This process produces a long-wearing, satisfactory mineral granule. There are other and less expensive processes, the product of one of which is known as the "painted" granule. Granules colored by this method will not withstand weathering and will not meet Texaco's specifications for permanence and durability of color.

To avoid sticking in the package the asphalt coating on the under side of the sheet is surfaced with fireproof, moisture-proof mica.

* * * * * * *

In the manufacturing process, our product is now in the form of a continuous sheet of felt, saturated with asphalt in one form, coated TOP *AND* BOTTOM with asphalt in another form, top-surfaced with permanent-color mineral granules and under-surfaced with mica.



Mineral Surfaced Roll Roofings

The sheet is then cooled, cut into desired lengths, rolled, wrapped and labeled. Next, the accessories are inserted, the rolls are headed and Mineral Surfaced Roll Roofing is ready for shipment.

The essential difference between our two grades (TEXACO and NUTEX) is in the thickness and weight of the felt base used and the resulting quantity of asphalt saturant absorbed.

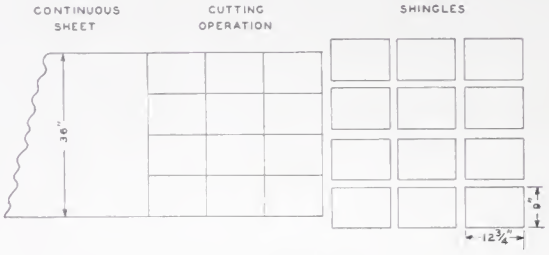
Asphalt Shingles

Asphalt Shingles are cut from a continuous mineral surfaced sheet as it comes from the cooling loopers. With the exception of "cut-outs" on the Square Butt Shingles, no waste results from this operation. The following describes not only *how* this is done but also *why*.

Standard Individual Shingles

The original form of the asphalt shingle was an individual unit 8" x 12¾", cut from a 32" sheet, and 424 shingles were furnished to cover one square. Cost of application was therefore high. In order to reduce application cost and to increase production in the roofing plant, the width of the sheets was increased to

36" and the width of the shingle to 9". Shingles were then cut from the sheet of material thus:

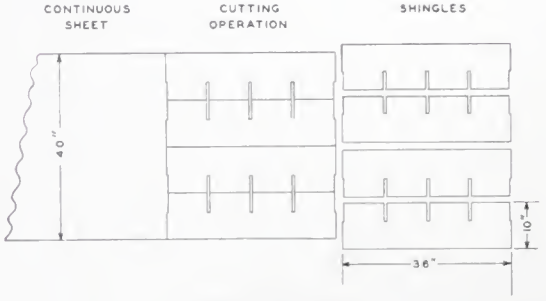


Standard Individuals

This reduced the number of units per square from 424 to 380, the number of nails to 760, and application costs were reduced proportionately.

Square Butt Strip Shingles

To reduce the quantity of material and to further reduce the cost of application, a Square Butt Strip Shingle (10" x 36", having four tabs exposed 4" to the weather) was developed.

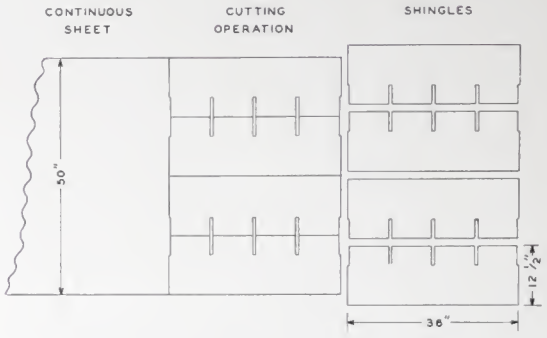


10" Square Butts

As compared with the Individual Shingle, this 10" Strip reduced the quantity of material per square from over 300 square feet to 244.5 square feet. It reduced the number of units to 100, the number of nails from 760 to 500 and the shipping weight from 253 lbs. to 210 lbs.

Because these Strip Shingles were laid with their ends abutting (eliminating open spaces between strips) they made a tight and satisfactory roof; and, with the advantages of lower price, lower freight cost and lower application cost, they rapidly became the standard form of shingle.

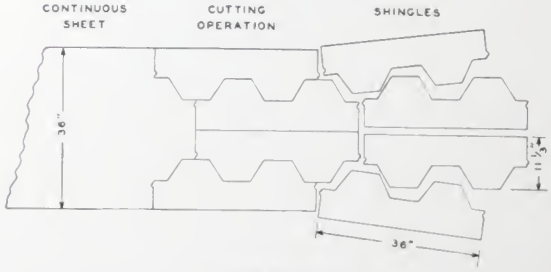
Some thought that the 2" headlap or upper safety margin was not sufficient, however, and accordingly the Square Butt Strip in 12½" width was offered to those customers who desired the greater protection afforded by a 4½" headlap.



12½" Square Butts

Hexagon Strip Shingles

Mineral Surfaced Roll Roofing, so cut and applied that it produced a hexagonal pattern on the roof, had been sold for some time in roll form. Accordingly, after the Square Butt Shingle in the form of 36" strips became widely accepted, a 36" Hexagon Strip Shingle with a 2" headlap was offered.

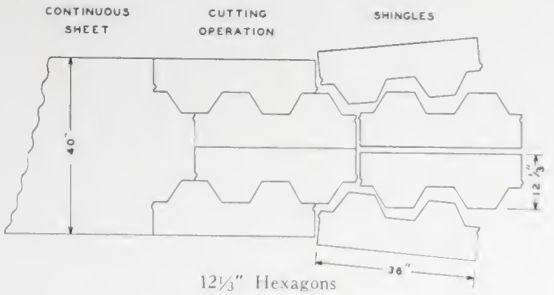


11⅓" Hexagons

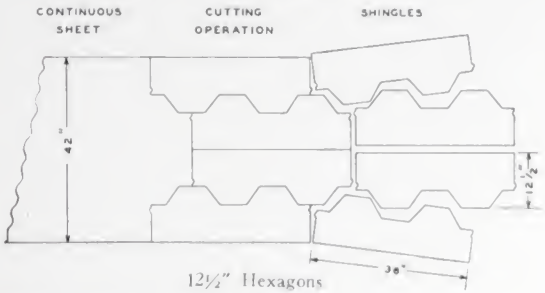
Although the 2" headlap on a hexagon type shingle obviously involved a greater risk than a 2" headlap on a Square Butt Strip Shingle, the substantial saving in material and freight charges, and the lower prices which these savings made possible, rapidly popularized this shingle. The lower material cost is evident when it is considered that only 193.5 Sq. Ft. of material are furnished per square for 11⅓" Hexagon Strip Shingles as compared with 244.5 Sq. Ft. for the 10" Square Butt Strip.

Since only 344 nails are required to apply a square of Hexagons (compared with 500 for the Square Butt), lower application cost also aided in popularizing

this shingle. Other sizes of Hexagon Shingles, all involving more material and more weight per square, but providing greater headlap protection, were then developed, as follows:



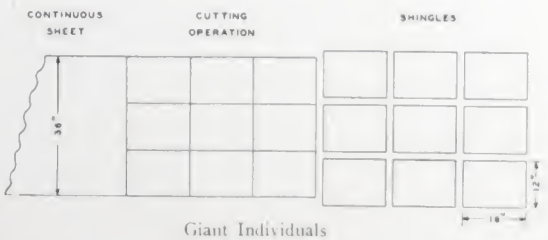
12⅓" Hexagons



12½" Hexagons

Giant Individual Shingles

The success of the Square Butt Strip Shingle warranted the development of a thicker, heavier individual shingle made on giant weight felt and in a larger dimension (12" x 16") for exposure 5" to the weather.



Giant Individuals

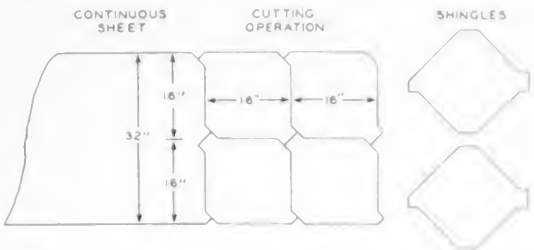
Because of a reduction in the number of units per square (228 vs. 380), as compared with the Standard Individual, cost of application was reduced. But cost of application of the Giant Individual in the conventional American Method always was higher than the cost of application of a Square Butt Strip of similar exposure. Today, one of the principal uses for the Giant Individual is for Dutch Lap application (which requires only 114 units per square) and in this field it has no real competitor.

Re-Roofing Shingles

In an attempt to reduce to a minimum the cost of an asphalt shingle roof, other manufacturers developed the so-called "single-thickness" re-roofing shingle (usually 16" x 16" in size). It has been found that this type of shingle, if effectively secured at the butt, could be used with some satisfaction over an old shingle roof.

This shingle has been promoted largely by roofing application companies, using door-bell-ringing, commission-compensated salesmen, offering an applied, guaranteed job to be paid for in 12 to 36 monthly installments. As a general rule, the consumer gets less for his money using this type of shingle than when using more substantial shingles such as Texaco Square Butt or Hexagon Strip Shingles.

To meet the demand in certain areas for a shingle of this type, TEXACO Sta-Fast Shingles are now available.



This shingle is made on an intermediate weight of dry felt, i.e., a weight about half-way between the weight of felt used for our Hexagon or Square Butt Shingles and that used for our Giant Individual Shingles.

The dimensions and exposure of the Sta-Fast Shingle result in the lowest weight and the least material, per square, of any Texaco Shingle. A comparison with our 11⅓" Hexagon Strip Shingle makes this quite apparent:

Per Square:	*STA-FAST*	*11⅓" HEXAGON*
Square feet of material	144.9	193.5
Approximate shipping weight	138#	167#
Number of shingles or strips	82	86

An important feature of the Sta-Fast Shingle is the rustproof staple with which the lower corner is securely fastened to the underlying shingles. The design of the shingle requires that only 2 nails be used for application, in addition to the staple, but results in the shingle being securely nailed at three corners and stapled at the one exposed corner. All nail heads are covered by the next course of shingles.

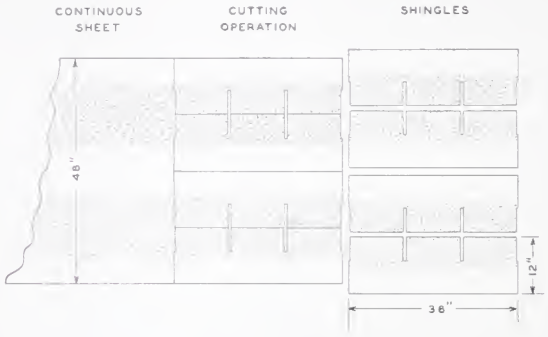
Thick Butt Shingles

An improvement in the process of making standard weight Square Butt Strip Shingles consists of an extra layer of asphalt and an extra layer of mineral gran-

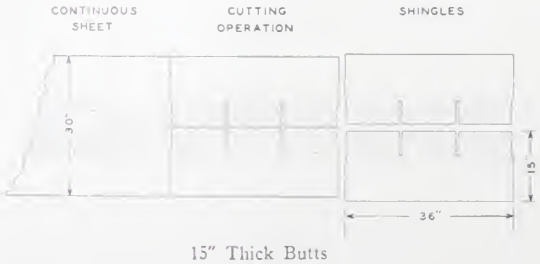
ules, ower, exposed portion of the shingle. the exposed portion somewhat thicker and stiffer than the upper portion.

Cross-Section of Thick Butt Shingle

The process is known as the "Over-lay," and the product as the "Thick Butt" Strip Shingle. The stiffer, heavier butt permits a 5″ exposure to the weather and, with only three tabs per strip, a further saving in cost of application is made.



12″ Thick Butts

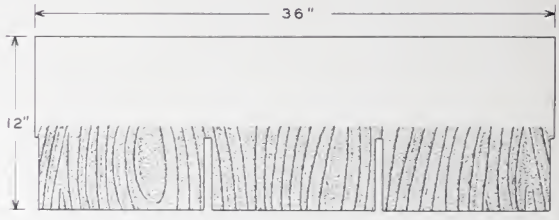


15″ Thick Butts

Only 80 strips, requiring four nails each or 320 nails, are needed to cover a square with 12″ or 15″ Thick Butts, as compared with 100 strips, requiring five nails each or 500 nails, with the 10″ and 12½″ Square Butt Strip Shingles.

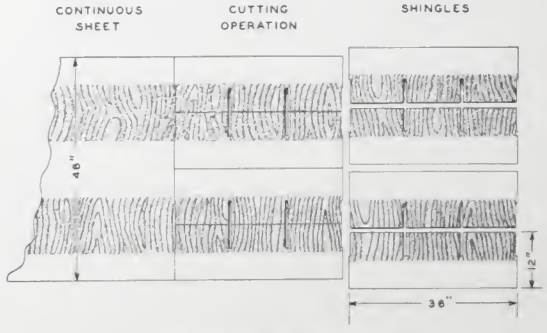
The appearance of the larger unit of exposure is desirable and the Thick Butt feature is an important talking point, not only because of the economy and additional protection offered but also because the thicker butt produces heavier shadow lines and a more attractive roof. As these advantages are appreciated, we find the Thick Butt Strip Shingle is preferred by many to the standard weight Square Butt Strip Shingle.

Thick Butts With Texture



After Thick Butt Shingles became popular, the competitive urge to create something *different* produced an innovation known as "graining" or "texturing."

The "grained" surface resulting from the endeavor to simulate wood graining on an asphalt shingle is referred to as "texturing." The process is very simple, and consists in passing the mineral surfaced sheet, while the coating is still hot, under a roller which by pressure makes an impress or pattern in the top surface.



12″ Thick Butts With Texture

Whether texturing improves the appearance of the product is largely a matter of personal opinion. As a general rule, the texture is scarcely discernible when viewed from a distance of 100 feet.

The textured surface of an asphalt shingle in the hands of the prospective buyer often has much appeal. It breaks up the uniformity of the surface and thereby adds character to the roof's appearance.

How To Handle Asphalt Roofing Products

Suggestions on how to PROTECT asphalt shingles and roll roofings before and during application.

Packages

Lift strip shingles by placing both hands underneath the package. Never lift by the wires or the wrappings. Use no hooks and avoid throwing or dropping. A bit of care in handling may avoid damage and consequent shortage on the job.

Keep Away from Heat

Shingles and roofing should be kept away from furnaces and all other direct heat. In temperatures of 90° F. or greater, the surface is subject to marring.

Keep Away from Dampness

Keep materials away from any liquids that might spill or seep on them.

Never allow roofing materials in bundles and rolls to stand in damp or wet places or exposed to the rain. If accidentally wet, open packages and dry out thoroughly.

In Storage

Of course all roofing materials should be stored indoors if possible, away from the weather in a cool, dry place.

In extensive storage indoors, areas should be marked out at right angles to the wall, marked for various types and colors of shingles, for quick access. Naturally new shipments should be placed at the rear and current stock brought forward, to insure proper rotation of stock.

Stack shingles on 2 x 4's or 2 x 6's, allowing enough room for a hand truck to be slipped under shingle packages. This method of storing keeps stock off floor, provides quick accessibility and thorough ventilation.

Always stack shingles flat and not to exceed a height of 36 inches for Thick Butt Strip Shingles or 60 inches for all other types.

Additional storage space for shingles in a limited floor area is usually obtained quite simply by building wooden racks. (See illustration.)

Stack roll roofing on end, never flat, generally two rolls high. If necessary, tie rolls in upper tiers with rope to prevent falling.

In Transit

Platform loading and unloading of large shipments will speed up handling and tend to avoid damage to materials. The use of hand trucks is desirable.

When moved by hand, roofing materials should be lifted on and off motor truck carefully, never thrown, dropped, rolled or pushed.

Distribute each load evenly on truck and keep away from liquid containers which might spill, or heavier objects which might upset. Keep covered in wet weather.

On the Job

Keep all roofing materials out of the weather, rain, mud, indoors if possible. If they must be stored outside, pick a high, sheltered spot with good natural drainage. Stack on planks and keep well covered.

During Application

Asphalt shingles and roll roofings should not be laid at temperatures below 40° F. If laid at temperatures above 90° F. care should be taken not to mar surfaces. Rubber soled shoes should be worn by anyone going on the roof.

During cold weather one precaution is necessary in applying shingles to hips and ridges. If they are bent sharply when cold the heavy asphalt coating may crack. Avoid this by storing shingles for hips and ridges in a warm place overnight. Shape them while warm.

Both smooth and mineral surfaced roll roofing should be allowed to lie in position on the roof deck long enough before nailing to flatten out and conform to the surface. On colder days this will take longer than on warm days. It is desirable, if temperature is below 60° F., to store the roofing in a warm place over night before laying. Then unroll it slowly and carefully.

Don't drive nails too deep. Doing so reduces holding power and damages the roofing.

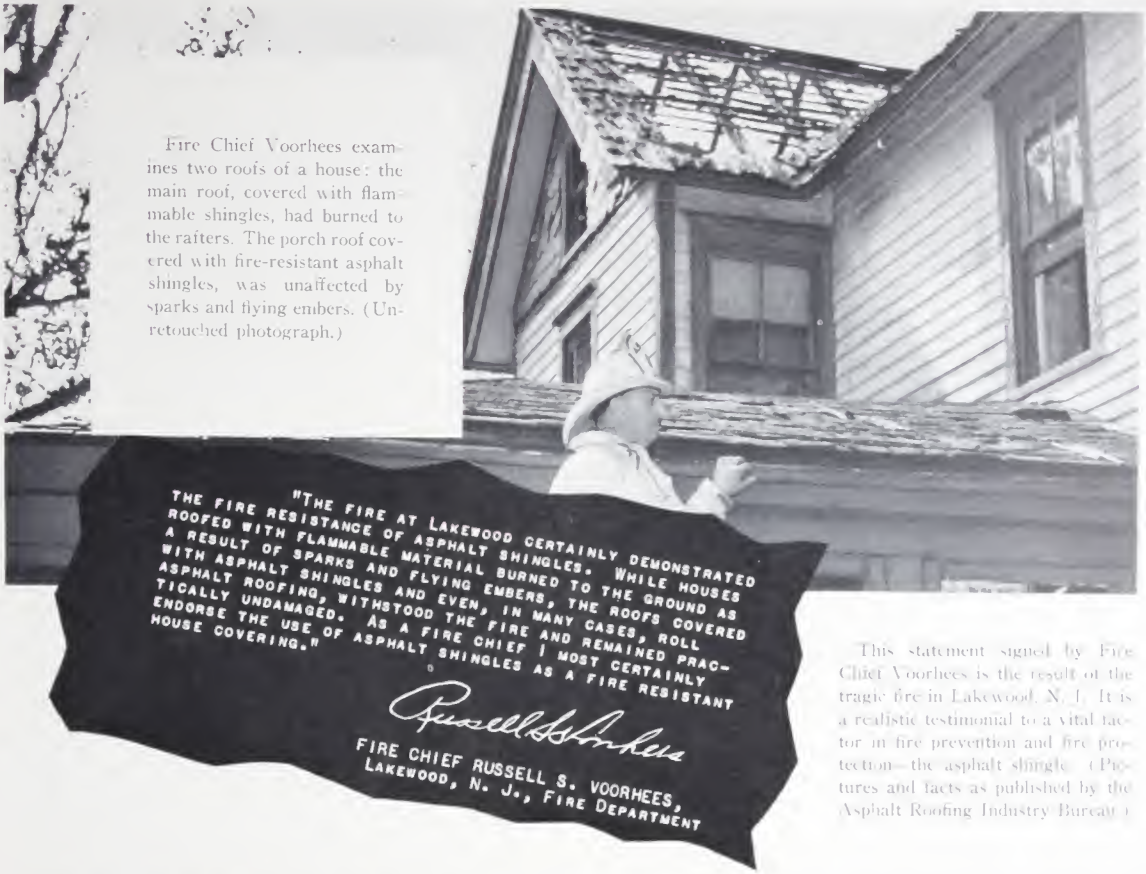
FIRE RESISTANCE . . . . PROVED BY FIRE!

On April 21, 1941, a forest fire, fought by military troops and the New Jersey State Forest Service, leaped a small stream and attacked the outskirts of the town of Lakewood, N. J.

But Lakewood was fore-armed!—having in effect a fire-resistant roofing ordinance that had already led to the protecting of many of its homes with fire-resistant asphalt shingles. In instance after instance, these homes resisted the onslaughts of flames and sparks, while many of those still roofed with flammable shingles burned to their foundations.

As a result of this roof protection, plus an alert, well equipped Fire Department under Chief Russell Voorhees, only 45 homes were destroyed in the entire town of Lakewood before the fire was extinguished. What might have been a frightful conflagration, in a town of approximately 2,500 family homes and many hotels, was limited to a small, though tragic, loss. (Unretouched photograph)

Fire Chief Voorhees examines two types of roof shingles used on Lakewood houses. In his right hand he holds a charred, flammable shingle; in his left, an asphalt shingle, exposed to showers of sparks and flying embers during the fire, but apparently uninjured. It was these asphalt shingles which protected many homes and saved them from total destruction.



Fire Chief Voorhees examines two roofs of a house: the main roof, covered with flammable shingles, had burned to the rafters. The porch roof covered with fire-resistant asphalt shingles, was unaffected by sparks and flying embers. (Unretouched photograph.)

This statement signed by Fire Chief Voorhees is the result of the tragic fire in Lakewood, N. J. It is a realistic testimonial to a vital factor in fire prevention and fire protection—the asphalt shingle. (Pictures and facts as published by the Asphalt Roofing Industry Bureau.)

TEXACO Asphalt Shingles and Roofings

Carry the Underwriters' Class "C" Label—for Fire Resistance

Mineral Surfaced Asphalt Shingles, though not fireproof, are *fire-resistant*. Texaco Asphalt Shingles and Roofings bearing the Fire Underwriters' Laboratories Label provide essential protection against flying embers, sparks and fire-brands. *They are not readily flammable and do not readily carry or communicate fire.*

648 Cities and Towns Forbid Flammable Roofs

Latest figures of the National Fire Protection Association show that 648 municipalities in the U. S. have enacted ordinances requiring fire resistive roofs within city limits.

Insurance Savings, too

Very often the use of asphalt shingles permits savings on insurance—dependent, of course, on local fire prevention conditions.

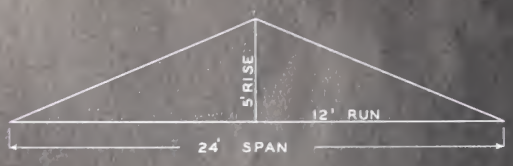
A Powerful Sales Argument for You

Obviously fire resistance is a vital sales argument to every home owner. First there is the *protection* it gives. Add to this the possibility of saving on fire insurance. Then add *right now* the war hazards that can result in spreading fire—fire which asphalt shingles will help guard against. Here are powerful sales arguments that mean a great deal to every present or prospective home owner in America.

HOW TO BUILD A REPUTATION FOR "ROOFS THAT WON'T LEAK"

Watch these 8 fundamental points to insure a good asphalt shingle job.

1 PITCH

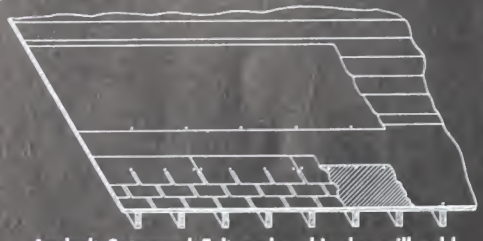


Minimum pitch for asphalt shingle roofs is 5 inches in 12; greater pitch means greater safety.

2 ROOF DECK

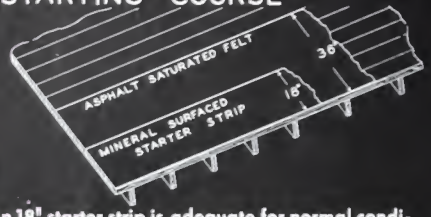
Use only well-seasoned lumber. Never use green lumber. Boards should be not less than ⅞" thick, not more than 8" wide.

3 FELT UNDER SHINGLES



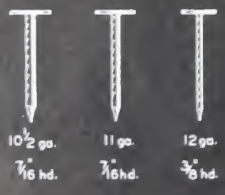
Asphalt Saturated Felt under shingles will add insulation and insure a tighter job.

4 STARTING COURSE



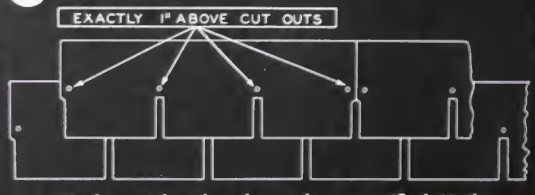
An 18" starter strip is adequate for normal conditions and steep roofs; inverted shingles are much less effective. In areas subject to heavy rains, snow, winds, use a 36" starter strip.

5 NAILS



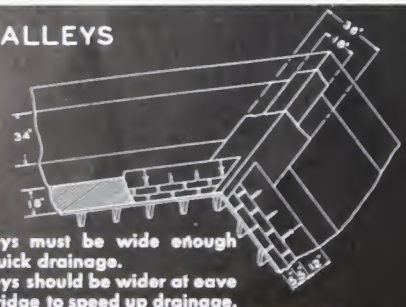
Use only galvanized (not bright) nails.
Use only large-head (not small-head) nails.

6 NAILING



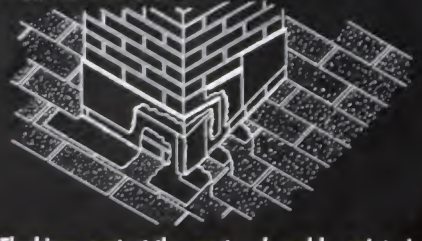
Nails must be placed exactly as specified. Nails placed even ½" higher weaken wind resistance of shingles.

7 VALLEYS



(a) Valleys must be wide enough for quick drainage.
(b) Valleys should be wider at eave than at ridge to speed up drainage.
(c) Use two thicknesses of material in all valleys.

8 FLASHINGS



Flashings protect the most vulnerable points in roof construction. They must be water-tight.

PROCEDURE POINTERS

Following these suggestions will result in a better shingle job

Before Shingles Are Laid
(New Construction)

1 - Chimneys should be completed.

2 - Flashings on upper sides of chimneys should be in place.

3 - Vent pipes through roof should be in place.

4 - Gutters should be hung.

5 - Metal edging strip should be applied to eaves and gable ends.

6 - Asphalt Saturated Felt should be applied.

7 - Both sheets of mineral surfaced material should be laid in valleys.

8 - Starter strip should be laid at eaves; should not extend over valley strips.

Laying Shingles

1 - If gable end is available, use it as the starting point for each course.

2 - Top corner of shingles, where they meet valley, should be clipped.

3 - At valleys, cut off shingles to conform to chalk line, and cement edge of shingles to the valley strips.

4 - Flashings should be carefully applied—by an experienced mechanic.

How to Apply All Types of Texaco Asphalt Shingles

It is essential that these shingles be applied strictly in accordance with the following directions. CAREFUL and CORRECT application is necessary for best results.

Roof Deck

The pitch of the roof should be not less than 5″ per horizontal foot.

New roof decks should be constructed with matched, well seasoned lumber not over 8″ in width, nor less than ⅞″ thick, free from large knots or holes. Boards should be laid in close contact, fastened securely to the rafters. Avoid the use of unseasoned lumber since it is likely to shrink and warp. Cover knotholes with tin. Be sure the roof deck is dry at time shingles are applied, and provide ventilation in building while plaster is drying out.

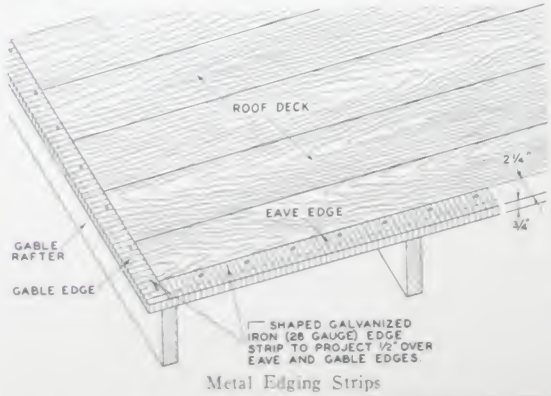
If old wood shingles are not badly curled, and both shingles and deck are sound, it is practical to lay the new shingles over the wood ones, thereby obtaining added insulation. In this case it is necessary to nail down all curled wood shingles and to replace missing ones. If old wood shingles are removed a smoother job can be obtained, but if they are not removed, the appearance of the finished roof can be improved by the use of beveled wood strips nailed just below the butts of the old shingles. If wood shingles are removed completely, fill any spaces wider than ½″ with boards of the same thickness as the old deck and nail securely.

Remove all loose material from the roof.

Install pipes and gutters before laying shingles.

Edging Strips

The use of galvanized metal edging strips, painted both sides, at eaves and gable ends, is recommended.



Metal Edging Strips

Allow this metal edging strip to project about ½″ beyond the edges and nail in place securely. This will improve appearance.

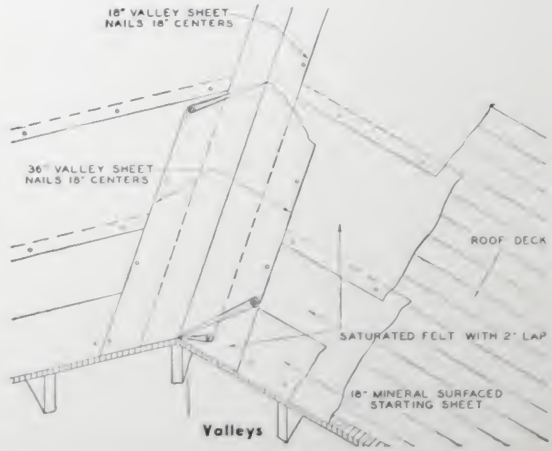
Insulation

Use TEXACO Asphalt Saturated Felt or light weight roofing under the shingles in all cases where shingles are to be laid directly over roof boards. This prevents condensation of moisture under shingles, provides insulation and insures a tighter job. Lay this felt horizontally with not less than 2″ laps and scatter nail sufficiently to hold in place during application of shingles.

Valleys

Should be placed before applying shingles.

Apply two sheets of TEXACO 90 lb. Mineral Surfaced Roofing in all valleys. Lay the first sheet 18″ wide with the mineral surfaced side down. Lay the second sheet 36″ wide with the mineral surfaced side up. Nail each sheet at 18″ intervals along edges after making sure that it lays smoothly and conforms to the contour of the roof. Strike chalk lines for shingle alignment 3″ away at the ridge and 4″ away at the eave from the center line of the valley. (See sketch under LAYING.) Make sure that no nails in the valley strips are within 3″ of these chalk lines.



Do not lay asphalt shingles at temperatures below 40° F. If they are laid at temperatures above 90° F., take precautions not to mar the surface of the roof. Rubber-soled shoes should be used.

Starting Sheet at Eaves

Apply Starting Sheet of TEXACO 90 lb. Mineral Surfaced Roofing 18" wide, or apply inverted shingles with the long side horizontal and ends abutting. Extend lower edge about ⅛" over the metal edging strip. Nail this starting sheet 2" above the lower edge, at such intervals that no nail will be exposed after shingles are laid. Do not extend starting sheet over valley sheet.

Alignment

Texaco Strip Shingles are self-aligning; for Giant Individual or Standard Individual Shingles, however, strike chalk lines across the roof at measured distances from the eave as the shingles are laid to secure proper horizontal alignment.

If the roof has a gable end at right angles to the eave, use this gable end as a guide, and lay shingles up the roof from this edge. If no gable end is present, strike a chalk line from a mid point of the eave to the ridge at right angles to the eave and additional lines parallel to this.

When a dormer breaks the first course of shingles and does not extend to the ridge, be sure that shingles on opposite sides of dormer are laid with proper spacing so that vertical alignment will be correct on the main roof above the dormer.

Nailing

On new work with standard weight shingles use 1", with Giant Individual Shingles use 1¼" and for re-roofing over wood shingles use 1¾" barbed, galvanized roofing nails not thinner than No. 12, or thicker than No. 10½ gauge, with heads not less than ⅜" in diameter. Drive nails straight and flush but do not countersink. Never drive nails through exposed surface of the shingle. Remove nails driven into cracks or knotholes and either repair holes in shingles with TEXACO Plastic Asbestos Roof Cement or replace shingle.

Placement of Nails:

Square Butt Shingles Thick Butt Shingles Hexagon Shingles	1" above each cut-out, as illustrated. Start nailing at abutting end of strip and nail across. Do NOT nail both ends and then the center.
Standard Individual Shingles	Two nails in each shingle, placed 5" above the butt and 1" from each side, as illustrated.
Giant Individuals American Method	Two nails in each shingle, placed 6" above the butt and 1" from each side, as illustrated.
Giant Individuals Dutch Lap Method	One nail in each upper left and lower right corners, placed 1" from edges, as illustrated.
Giant Individuals Wide Space Method	Two nails in each shingle placed 5½" above the butt and 1" from each side, as illustrated.

At valleys cut off shingles to conform with chalk line. Place an additional nail at least 3" from chalk line in upper portion of each shingle where it is cut at the valley. Clip upper corner of shingles at valleys.

Use TEXACO Plastic Asbestos Roof Cement underneath edges of shingles at valleys.

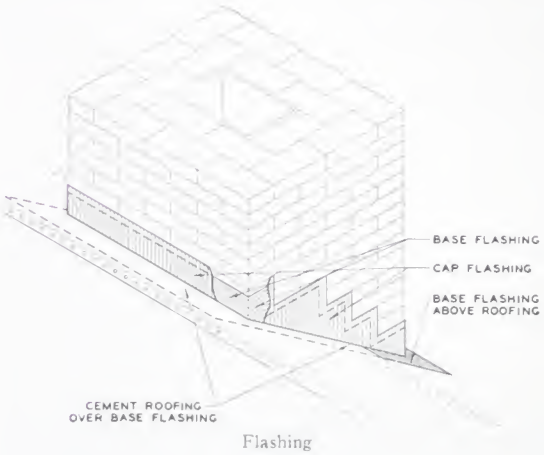
★ MILLIONS KNOW TEXACO ★

The Following Directions Apply to All Types of TEXACO ASPHALT SHINGLES

Flashing

Use base and cap flashing of sheet metal at chimneys, skylights, vents and walls. Apply base flashing as the shingles are laid. Shingles should cover the base flashing on sloping and upper sides and be cemented to flashing; base flashing should cover shingles on the lower sides.

Install cap flashing on brick work by raking a joint at least 1″ deep and inserting the top edge of the flashing. This should come down over the base flashing about even with the surface of the shingles. Point up joint with TEXACO Plastic Asbestos Roofing Cement. No cap flashing is necessary on wooden walls where the base flashing can extend up underneath the siding in a waterproof manner.



Flashing

Staging

Staging is recommended when the pitch of roof is over 6″ per horizontal foot. Several types are available on the market, but a satisfactory staging can be made as follows:

Suspend 2x4s with metal straps, placing the straps around the 2x4 and nailing to the roof deck through the shingles high enough so that the nail heads will be covered at least 3″ by the overlapping shingles.

Remove the staging by lifting the shingle and cutting off the metal strap under it. Flatten the strap remaining on the roof so that it does not lift the shingle.

Finishing

Remove all scrap material from roof and inspect roof carefully for defects. If staging has been used remove carefully, making certain that roofing is not damaged. Repair any holes through the shingles with TEXACO Plastic Asbestos Roof Cement applied under the exposed butt.

Directions for LAYING each type of shingle on following pages

The Importance of Under-Roof Ventilation

Moisture condensation is a troublemaker. Caused by inadequate ventilation, it occurs whenever warm, moisture-laden air contacts cold areas. Modern house construction and insulation prevent moisture from escaping readily. It accumulates in the attic and, unless permitted to escape, condenses on the colder wood sheathing of roof and dormers.

Condensation is particularly dangerous to the roof deck. It may cause an actual movement of roof boards and result in tearing or buckling of shingles. Thorough ventilation is essential. It is the only way to prevent condensation and the resulting damage. The following suggestions are offered:

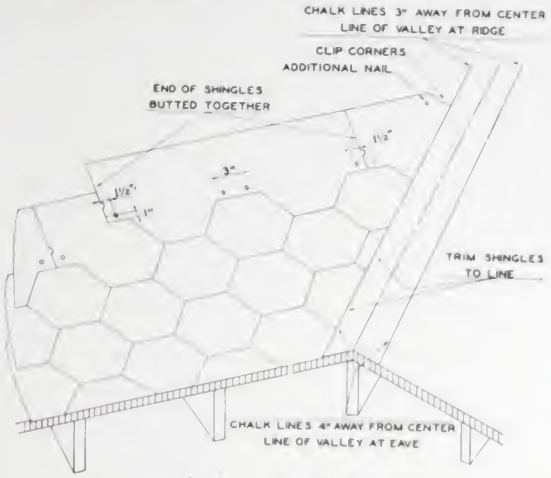
1. **INLETS.** Provide a constant supply of air to the attic as the first step for good ventilation. (Grille in attic floor or door.)
2. **STRAIGHT GABLE ROOF.** Should have small louvres in the gables at each end.
3. **HIP ROOF.** Construct small dormer with louvre or rounded "eyebrow" dormer.
4. **METAL VENTILATORS.** When dormers are not desired, use metal, wind-driven ventilators.
5. **PLASTER.** Be sure moisture from fresh plaster is permitted to leave the house. Otherwise the roof boards will absorb the moisture content. The buckling of roofs in new construction can often be traced to incomplete drying out of the plaster.

Directions Applying Only To HEXAGON STRIP SHINGLES

Laying

Lay the first course of shingles at the eaves with lower edge directly over the starting sheet. Strike chalk lines across roof at measured distances from the eave as the shingles are laid to secure proper horizontal alignment.

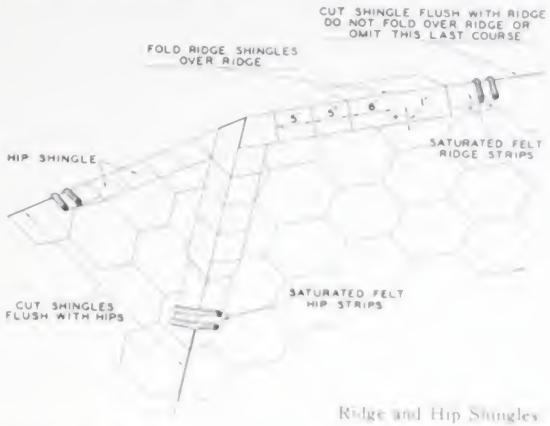
Lay shingles evenly, end to end, staggering each successive course so that butts coincide exactly with upper edges of cut-outs in shingles on preceding course.



Laying and Nailing

Ridges and Hips

Trim shingles flush with top of ridges and hips. (Do not omit last course.) Lay a double layer of TEXACO Asphalt Saturated Felt 6" wide on each ridge and hip. Apply TEXACO Individual Shingles on ridges and hips, exposing butts 5". Drive nails 1" from side edges of shingles and 6" above butt. Never leave exposed nails.

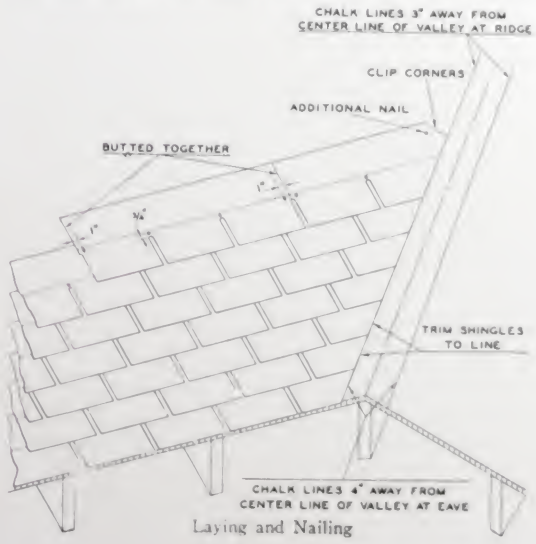


Ridge and Hip Shingles

Directions Applying Only To SQUARE BUTT and THICK BUTT STRIP SHINGLES

Laying

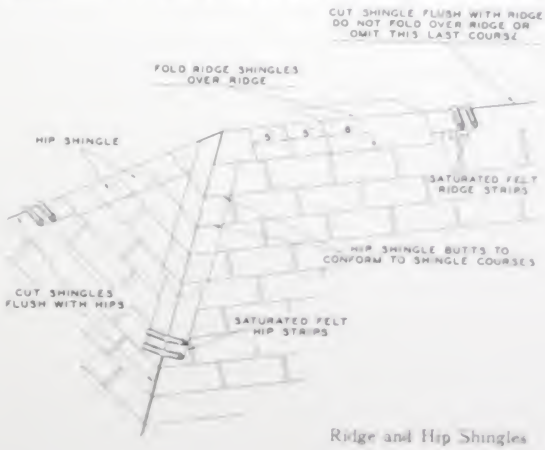
Do not space these shingles. Lay evenly, with ends abutting, staggering each successive course either one-half or one-third the width of a shingle butt with lower edges coinciding exactly with upper end of cut-outs in shingles on preceding course.



Laying and Nailing

Ridges and Hips

Trim shingles flush with top of ridges and hips. Do not omit last course. Lay a double layer of TEXACO Asphalt Saturated Felt 6" wide on each ridge and hip. Apply either TEXACO Individual Shingles, or pieces cut from Square Butt or Thick Butt Shingles, on ridges and hips. Expose butts on hips to conform with shingle courses on main roof, and not over 5" on ridges. Drive nails 1" from side edges of shingles and 1" above butt end of overlapping shingle. Never leave exposed nails.

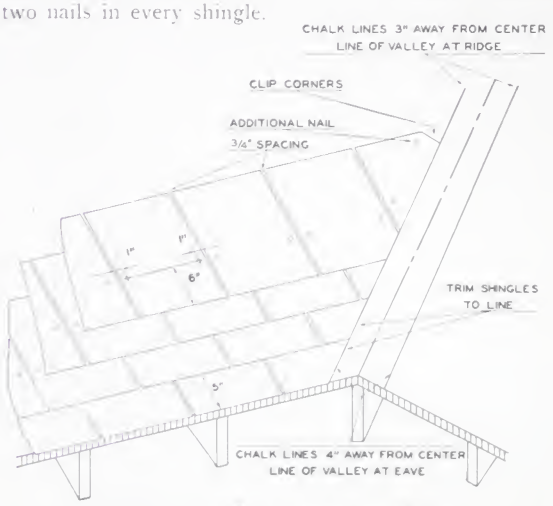


Ridge and Hip Shingles

Directions Applying Only To
GIANT INDIVIDUAL SHINGLES
(American Method—Dutch Lap Method—Wide Space Method)

Laying American Method

Lay the first course at the eaves with lower edge directly over the starting sheet. Lay shingles evenly, ¾″ apart with the short side at the eave, exposing 5″ to the weather. Stagger each successive course either one-half or one-third the width of a shingle. Nail 6″ above the butt and 1″ from each side, using two nails in every shingle.



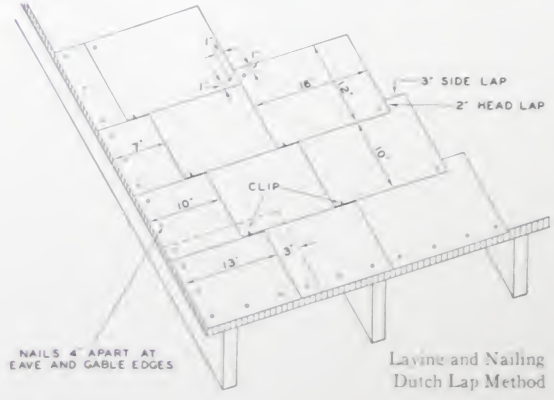
Laying and Nailing — American Method

Laying Dutch Lap Method

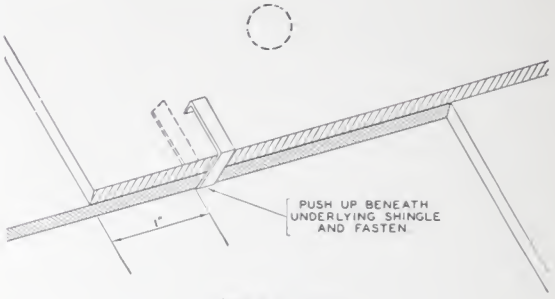
Start at lower left corner of roof with full size shingles laid lengthwise along the eave. Nail at upper left corner and lower right corner 1″ from edges. Lap each shingle 3″ at left side over right edge of preceding shingle.

Lay second and succeeding courses with 2″ headlap and 3″ sidelap, butting lower right edges against upper left edges in preceding course.

After all shingles are laid, fasten lower left corner of each shingle with copper clips or staples 1″ from edge. Nail at eaves and gable edges, spacing nails 4″ apart and 1″ from edge.



Laying and Nailing
Dutch Lap Method



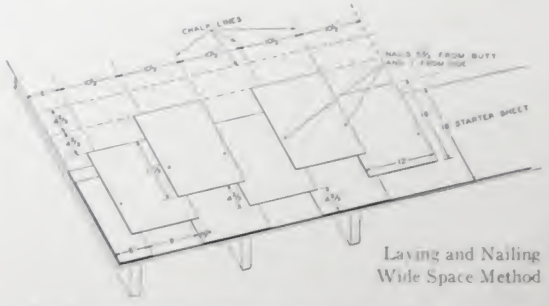
Detail of Clip

Roof may be laid either from left to right (as described above), or from right to left. Never work from both corners.

Laying Wide Space Method

After chalking off roof as shown below and applying 18″ starter sheet, start at lower left corner of roof with a half shingle and continue across the roof with full shingles spaced 9″ apart, making certain that butt edges are flush with edging strip and that right hand sides of shingles are even with chalk lines. Nail 1″ from each side and 5⅔″ from butt, using two nails in every shingle.

Start 2nd, 4th and succeeding alternate courses with full shingles. Start 3rd, 5th and succeeding alternate courses with half shingles. Lay all shingles 9″ apart, side-lapping the two under shingles 1½″ on each side, and laying each course 4⅔″ above preceding one.



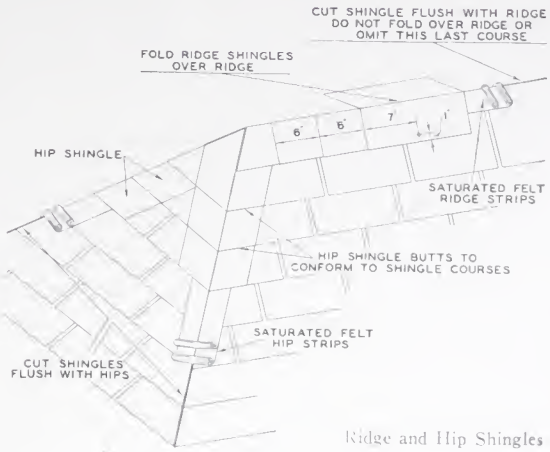
Laying and Nailing
Wide Space Method

Good appearance depends upon careful vertical and horizontal alignment.

Directions Applying Only To
GIANT INDIVIDUAL SHINGLES
(All Methods)

Ridges and Hips

Trim shingles flush with top of ridges and hips. Lay a double layer of TEXACO Asphalt Saturated Felt 6" wide on each ridge and hip. Apply TEXACO Giant Individual Shingles on ridges and hips, exposing butts not over 6" to the weather. Drive nails 1" from side edge of shingles and 1" above butt end of next shingle. Never leave exposed nails.



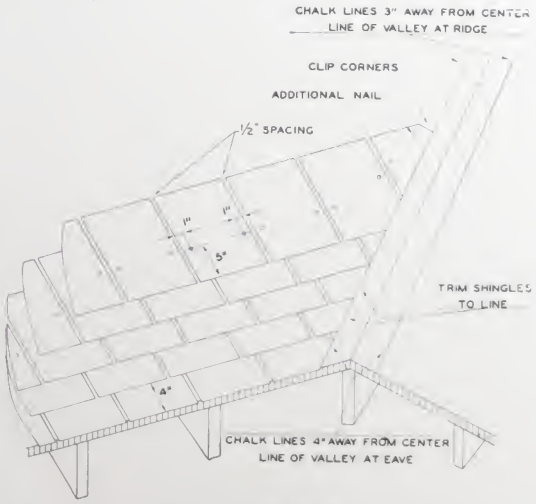
Ridge and Hip Shingles

Directions Applying Only To
STANDARD INDIVIDUAL SHINGLES

Laying

Lay the first course at the eaves with lower edge directly over the starting sheet. Strike chalk lines across the roof at measured distances from the eaves as the shingles are laid to secure proper horizontal alignment.

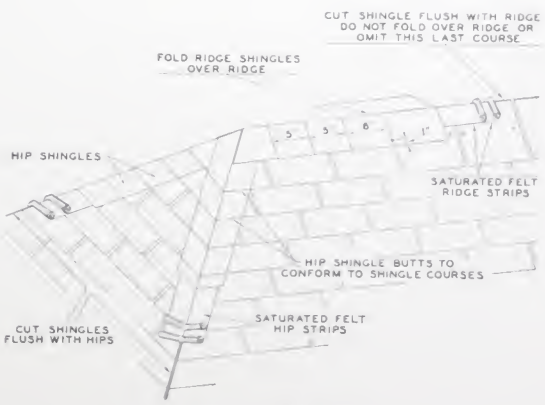
Lay shingles evenly, ½" apart with the short side at the eaves, exposing 4" to the weather. Stagger each successive course either one-half or one-third the width of a shingle.



Laying and Nailing

Ridges and Hips

Trim shingles flush with top of ridges and hips. Do not omit last course. Lay a double layer of TEXACO Asphalt Saturated Felt 6" wide on each ridge and hip. Apply TEXACO Individual Shingles on ridges and hips, expose butts on hips to conform with shingle courses on main roof and not over 5" on ridges. Drive nails 1" from side edge of shingles and 1" above butt end of next shingle. Never leave exposed nails.



Ridge and Hip Shingles

Directions Applying Only to TEXACO STA-FAST SHINGLES

Alignment

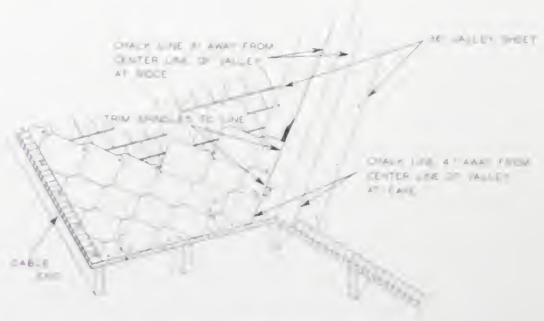
Strike chalk lines across the roof at measured distances from the eave as the shingles are laid to secure proper horizontal alignment.

If the roof has a gable end at right angles to the eave, use this gable end as a guide and lay shingles up the roof from this edge. Chalk lines parallel to the gable and at right angle to the eave should also be used to insure proper vertical alignment of shingles. If no gable end is present, strike a chalk line from a mid-point of the eave and additional lines parallel to this, using these lines for vertical alignment.

When a dormer breaks the first course of shingles and does not extend to the ridge, be sure that shingles on opposite sides of dormer are laid with proper spacing so that vertical alignment will be correct on the main roof above the dormer.

Laying

If roof is broken with valleys or dormers, start first course at gable end, using one-half shingle cut midway vertically. Lay cut edge flush with gable edge and butt flush with starting strip. On a plain, unbroken roof, start laying the shingles at the center of the eaves and work toward the ends. Nail with one nail in shoulder, allowing room for use of stapling machine and two nails along cut edge of shingle at gable, *one at top and one at center of cut edge*. Lay succeeding shingles with projecting shoulders abutting and with butts flush with starting strip. Drive one nail in each shoulder and fasten the butt of each shingle to the shoulders of the shingles in the eave course with the use of stapling machine. If starting sheet is used, staple the butt of shingles to the starting strip.



Laying and Nailing

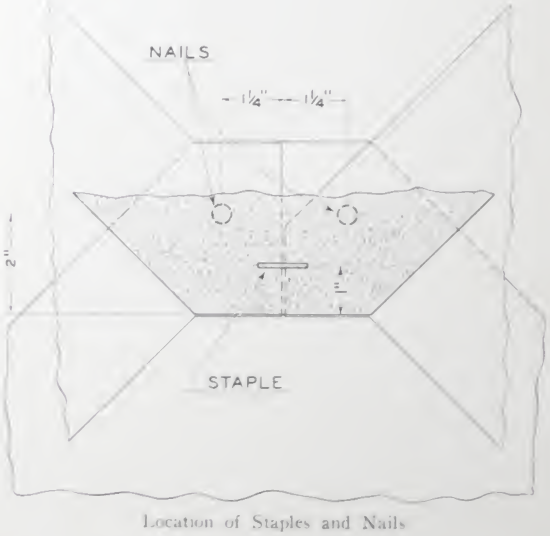
Start second course with full shingle, laying shingles with shoulders abutting, using one nail in each shoulder and stapling the butts to shoulders of preceding course. Lay succeeding courses similarly to second course.

Nailing

On new work use 1", and for re-roofing over wood shingles use 1¾" barbed, galvanized roofing nails not thinner than No. 12 nor thicker than No. 10½ gauge, with heads not less than ⅜" in diameter. Drive nails straight and flush, but do not countersink. Never drive nails through exposed surface of the shingles, except as noted at eaves, gables and valleys. Remove nails driven into cracks or knotholes, and either repair holes in shingles with Plastic Asbestos Roof Cement or replace shingles.

Use only two nails for each shingle, except at eaves, gables and valleys. These nails to be placed one in each shoulder of shingle, and so located to allow use of stapling machine.

Staple the butt of each shingle to the shoulders of the underlying shingles with the stapling machine.



Location of Staples and Nails

Gable ends should be finished with a galvanized edging strip similar to strip at eaves, but placed on top of shingles and nailed at approximately 8" intervals.

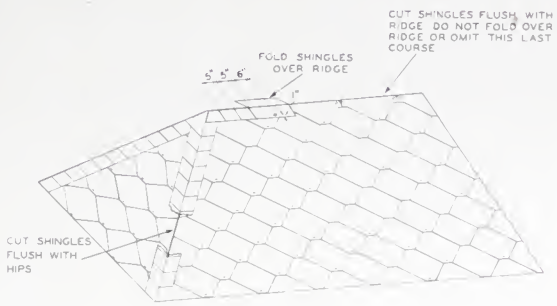
Cut off shingles to conform with chalk line at valleys, and nail 3" from chalk line as shown wherever staples

Directions Applying Only to
TEXACO STA-FAST SHINGLES

cannot be used. Use Plastic Asbestos Roof Cement under shingles. Nail starting strip or starting shingles, as shown, 1″ from edge.

Ridges and Hips

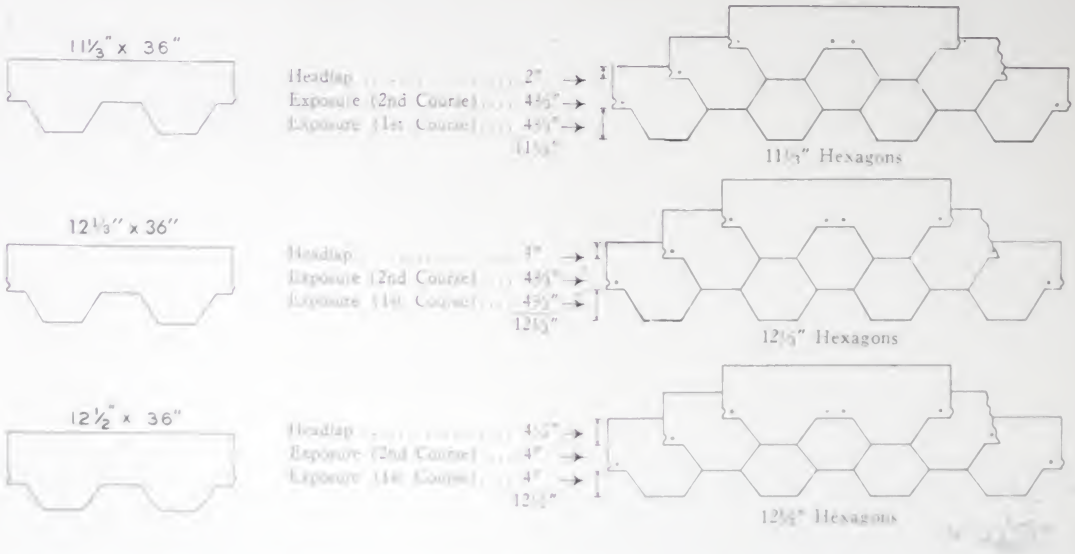
Trim shingles flush with top of ridges and hips. Do not omit last course. Thoroughly cement ridges and hips, and apply either Individual Shingles or 9″ strips of 90-lb. Mineral Surfaced Roofing. Expose butts of shingles not over 5″ on ridges. Drive nails 1″ from side edge of shingles and 1″ above butt end of next shingle. Drive nails 1″ from edge every 2½″ on ridge and hip strips.



Ridges and Hips

★ MILLIONS KNOW TEXACO ★

Texaco Hexagon Strip Shingles



The hexagonal shape of these shingles when applied is important in its bearing upon the quantity of material furnished.

These shingles are cut without waste as the projections on one shingle form the corresponding recesses of the adjacent one. From the illustrations above it may be seen that their design permits an economical arrangement of material on the roof. Since all three sizes are cut from the same weight of stock, it is obvious that the degree of protection afforded and the difference in price is a result of the size and exposure of the shingle and the quantity of material furnished per square.

The 11⅓" Hexagon Strip is applied with a 2" headlap, but the 12½" Strip has a 50% greater, or 3" headlap, offering more protection against driving rains. With the 12½", the *most* in protection and the *most* in extra safety are obtained because it has the *greatest* headlap (4½" instead of 3" or 2"). The 12½" Strip also has another safety feature- less of it is exposed to the weather (4" instead of 4⅔" for the 11⅓" and 12⅓").

Additional roofing material to furnish this added protection, is evidenced by the following:

11⅓" Hexagon—193.5 sq. ft. furnished per square.
12⅓" Hexagon—213.0 sq. ft. furnished per square.
12½" Hexagon—202.5 sq. ft. furnished per square.

Another important factor is application cost. Since there are only 80 shingles per square (requiring 4 nails per shingle) in both the 11⅓" and 12⅓" sizes, application costs are the same. The 12½" size has 100 shingles per square and some increase in application cost is therefore incurred. The 12½" Strip, having a headlap greater than the exposure (4½" vs. 4") is known as a "double coverage" shingle since it provides an average of *more* than two thicknesses.

All sizes of Texaco Hexagon Strip Shingles are made with the ingenious TEXACO End-Locking Device which insures correct horizontal alignment, improves appearance and produces a tighter roof.

Texaco Hexagons are recommended for both new and re-roofing work where the pitch or incline of the roof is not less than 5" per horizontal foot.

Colors

Available in beautiful blends and popular solid colors. (See "Specifications.")

Fire-Resistance

Hexagons bear the Underwriters' Laboratories Label.

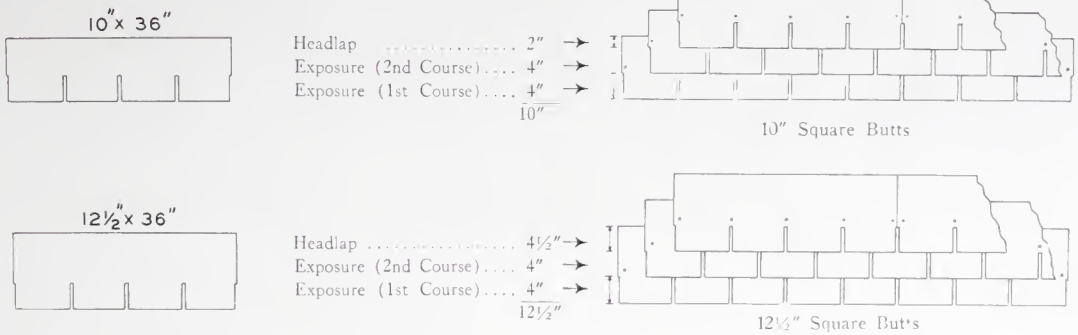
Packages

Hexagons are attractively packaged. The 11⅓" and 12⅓" strips are packaged 2 bundles per square; the 12½" strips, 3 bundles per square.

Application

Directions For Applying are packed in every 5th bundle and should be followed carefully.

Texaco Square Butt Strip Shingles



There is no more popular roof than the "American Method"; that is, the conventional arrangement of shingles having square butts laid side by side in horizontal, overlapping rows. Texaco Square Butts carry on this time-honored tradition. However, with typical American ingenuity, they reduce the large number of units heretofore needed *by combining four shingles in one piece.* This greatly reduces application costs and insures a tighter roof, yet retains all the desirable appearance features of the "American Method."

Texaco Square Butts are self-spacing and self-aligning. Note that ends of strips adjoin, above the exposed portion, with no open space between, and that the exposed portions of each strip have the appearance of four shingles.

As with all standard weight Texaco Strip Shingles, the degree of protection obtained and the difference in price result from the size and exposure of the strip and the quantity of material furnished per square.

With the 10" Strip, minimum overlap of one shingle upon the shingle in the course below is 2", and this minimum exists only at the cut-outs which are but ½" wide. At all other points the overlap is 6." The roof is therefore covered with an average of two thicknesses of material over approximately 50% of its area, and an average of three thicknesses over most of the remainder. This is evidenced by the fact that 244.5 sq. ft. of roofing material are furnished per square.

The 12½" Square Butt Strip provides 125% greater headlap (4½" instead of 2"). 307.0 sq. ft. of roofing material are furnished per square. Thus the roof is covered with an average of three thicknesses of material, and the removal of an entire shingle from this roof would expose no part of the roof deck.

TEXACO Square Butt Strip Shingles are recommended for both new and re-roofing work where the pitch or incline of the roof is not less than 5" per horizontal foot.

Colors

Available in beautiful blends and popular solid colors. (See "Specifications.")

Fire-Protection

Square Butts bear the Underwriters' Laboratories Label.

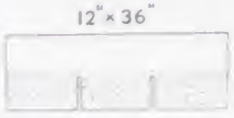
Packages

Square butts are attractively packaged. The 10" strips are packaged 2 bundles per square; the 12½" strips, 3 bundles per square.

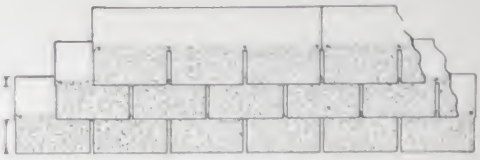
Application

Directions For Applying are packed in every 5th bundle and should be followed carefully.

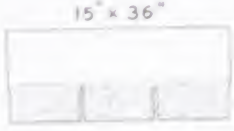
Texaco Thick Butt Strip Shingles



Headlap ..... 2" →
Exposure (2nd Course) .... 5" →
Exposure (1st Course) .... 5" →
12"



12" Thick Butts



Headlap ..... 5" →
Exposure (2nd Course) .... 5" →
Exposure (1st Course) .... 5" →
15"

15" Thick Butts

Basically, the Thick Butt Strip Shingle is an improvement over the standard Square Butt Shingle. This improvement consists of (1) an extra layer of asphalt and an extra layer of mineral granules on the lower, exposed portion of the shingle and, (2) an increase of the exposure and the width of the tabs, thereby reducing the number of tabs per strip from four to three.

Cross-Section of Thick Butt Shingle

This additional protection "where the weather strikes" is obviously a strong talking point. The added thickness at the butt casts a more effective shadow. The reduction of the number of tabs or butts decreases the number of nails from 500 to 320 and therefore reduces application cost. The increased exposure (5" instead of 4") decreases the number of strips (from 100 to 80), further reducing application cost.

The 15" Thick Butt provides 150% greater headlap than does the 12" Thick Butt (5" instead of 2"), although each has the same exposure. This additional protection is evidenced by the increased weight per square (250 lbs. instead of 210 lbs.) and the additional material furnished (296.0 sq. ft. instead of 236.0 sq ft.). Thus, the roof is covered with an average of almost *three* thicknesses.

Both widths are recommended for new and re-roofing work where the pitch or incline of the roof is not less than 5" per horizontal foot.

Colors

Available in beautiful blends and in popular solid colors. (See "Specifications.")

Fire-Resistance

Thick Butt Strip Shingles bear the Underwriters Laboratories Label.

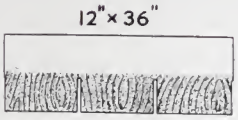
Packages

Thick Butt Strip Shingles are attractively packaged. The 12" strips are packaged 2 bundles per square; the 15" strips, 3 bundles per square.

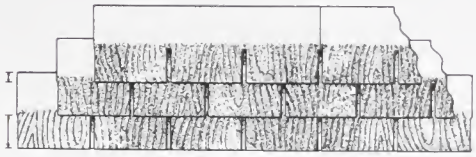
Application

Directions For Applying are packed in *every* 5th bundle and should be followed carefully.

Texaco Thick Butt Strip Shingles—With Texture



Headlap ..... 2" →
Exposure (2nd Course). 5" →
Exposure (1st Course). 5" →
12"



12" Thick Butts—With Texture

Here is a new and different surface on a time-tested product.

It has definite and distinctive advantages in appearance.

It is a modern appearance improvement which will add sales appeal to every home.

The object in texturing is to create a "grain" simulating that of wood. In doing so, small valleys are produced. These break up the monotony and add to the all-over attractiveness of the roof's surface.

This new shingle has, of course, all the service advantages and application advantages inherent in the design and construction of the Thick Butt Strip Shingle.

Recommended for both new and re-roofing work where the pitch or incline of the roof is not less than 5" per horizontal foot.

COLORS—Available in beautiful blends and in popular solid colors. (See "Specifications.")

FIRE-RESISTANCE—These shingles bear the Underwriters' Laboratories Label.

PACKAGES—12" Thick Butt Strip Shingles with Texture are attractively packaged, 2 bundles per square.

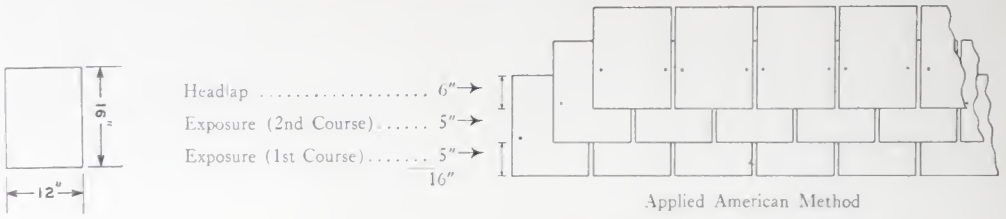
APPLICATION—Directions For Applying are packed in every 5th bundle and should be followed carefully.

How Texaco Shingles Are Packaged

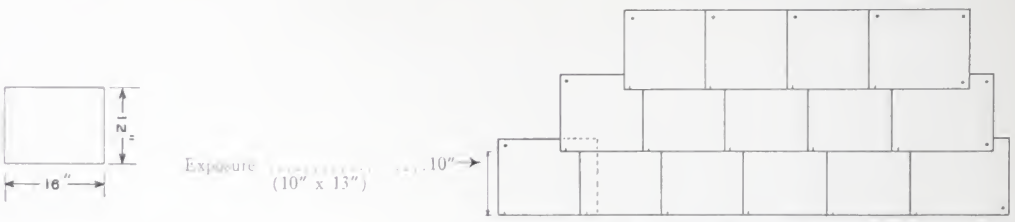
The present corrugated paperboard package is illustrated above. The side flaps provide protection against damage by the tying wires, handling and storage. Product identification may be made from both top and side. Every package carries the Underwriters' Laboratories Label.

Texaco Giant Individual Shingles

Texaco Giant Individual Shingles—Dutch Lap



Applied American Method



Applied Dutch Lap Method

Although offered as two products and applied by several methods, this is actually one and the same shingle.

As referred to in the section on "How Asphalt Roofing Products Are Made," the Giant Individual is larger than the Standard Individual and is applied with a larger exposure. It is made on a felt base approximately 40% heavier. This felt absorbs proportionately more asphalt saturant. The asphalt coatings (top and bottom) are thicker. The average shipping weight, 325 lbs. for American Method application, exceeds that of any of our other asphalt shingles. Giant in size, Giant in weight, Giant in construction, the product is honestly named.

The original method of applying Giant Individuals is known as the American Method because it is the conventional arrangement (since early Colonial days) of square butts laid side by side in horizontal, overlapping rows. For this method, Giants are applied with a 5" exposure and a 6" headlap. Since 228 shingles consisting of 304 sq. ft. of material are furnished to cover 100 sq. ft. of roof area, it is obvious that the roof will be covered with an average of *three* thicknesses. These three thicknesses consist of heavier, stronger and longer-wearing material than any asphalt shingle made on standard weight felt.

The Dutch Lap Method of application reduces the quantity of material required and the cost to the user. It actually requires only half as much material per square as the American Method (114 shingles instead of 228) and cost of the finished job is likewise reduced. For Dutch Lap application this 12" x 16" Giant is applied with a 10" x 13" exposure and is laid lengthwise, parallel with the eaves. Each shingle is covered on one end by the 3" sidelap of the adjacent shingle and across the top by the 2" overlap of the succeeding course. Three corners of each shingle are therefore nailed (these nails are later covered by adjacent shingles) and the one exposed corner is held securely by a powerful, rust-proof clip.

Giant Dutch Laps are particularly adaptable for re-roofing over old wood shingles as they are highly resistant to windstorms and driving rains. They also have no real competitor among re-roofing shingles made on standard weight felt because they provide a sturdier, thicker, longer-wearing roof.

Giant Dutch Laps also are recommended for siding. Their long-wearing, fire-resistant qualities, their attractive appearance, their low price and low cost of application make them particularly suitable for this purpose. We do not recommend that any asphalt shingle with an unsecured butt be used for siding. Giant Individual Dutch Laps are recommended, however, because all four corners are held rigidly in position.

For American Method application, Giant Individuals are simply termed "Giant Individual Shingles." For Dutch Lap application, however, they are referred to and ordered by the name "Giant Individual Shingles—Dutch Lap."

American Method application is recommended for new work and for re-roofing; Dutch Lap Method is recommended for new work, re-roofing and siding; ap-

plication of Giant Individuals by any method is recommended only when the pitch or incline of the roof is not less than 5" per horizontal foot.

Colors

Giant Individuals for application by any method are available in a beautiful blend and in popular solid colors. (See "Specifications.")

Fire-Resistance

Giant Individuals bear the Underwriters' Laboratories Label.

Packages

Giant Individuals are attractively packaged, 4 bundles per square; Giant Individual Dutch Lap Shingles are packaged 2 bundles per square.

Application

Directions For Applying are packed in every 5th bundle and should be followed carefully.

Texaco Standard Individual Shingles

This is the original type of Asphalt Shingle. It has been largely replaced by strip shingles because of their lower material and application costs.

Its use is now confined largely to hips and ridges on roofs covered with strip shingles. Were it not for this particular use many manufacturers, including ourselves, would probably discontinue it.

Colors

Available in the same standard colors as our other shingles. (See "Specifications.")

Fire-Resistance

Standard Individuals bear the Underwriters' Laboratories Label.

Packages

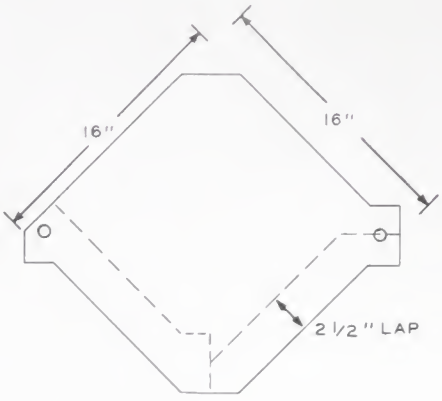
Attractively packaged, 4 bundles per square.

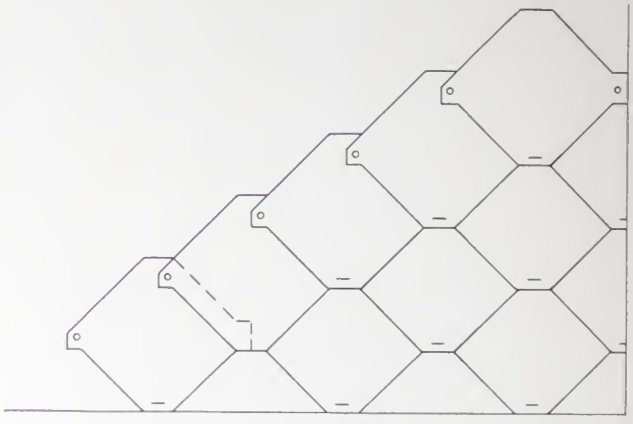
Application

Directions For Applying are included in every 5th bundle and should be followed carefully.

★ MILLIONS KNOW TEXACO ★

Texaco Sta-Fast Shingles





Texaco Sta-Fast Shingles are designed for economical re-roofing over old shingle roofs, and provide essentially a single-thickness roof as is evidenced by 144.9 square feet of material being furnished for each 100 square feet of roof area.

The large percentage of each shingle exposed is practical and satisfactory because all four corners of each shingle are securely fastened. The exposed lower corner is "locked" to the previously-nailed corners of the two underlying shingles with a rustproof staple.

The "locked-together" roof is a strong talking point for dealers who feature this shingle.

Acme Staples are furnished with Texaco Sta-Fast Shingles, and an Acme AR Stapling Machine is required for their application.

Acme "AR" Stapling Machine

Only 2 nails and 1 staple are required for application of each shingle; 82 shingles cover one square.

This shingle is applied with a 2½" lap, measured at right angles to the edge of the shingle. If measured on a horizontal or vertical line, the lap is 3.535 inches.

TEXACO Sta-Fast Shingles are recommended for re-roofing over old shingle roofs where low initial cost is the primary consideration. The pitch or incline of the roof should be not less than 5" per horizontal foot.

Colors

Available in beautiful blends and popular solid colors. (See "Specifications.")

Fire-Resistance

Sta-Fast Shingles bear the Underwriters' Laboratories Label.

Packages

Attractively packaged, 2 bundles per square, 41 shingles per bundle.

Staples

Approximately 90 rustproof, Acme AR Staples for application are shipped separately with shingles and included in price.

Application

Directions For Applying are packed in every 5th bundle and should be followed carefully.

SPECIFICATIONS
TEXACO ASPHALT SHINGLES

NOTICE: As this book was being printed a Government Order stopped the use of certain coloring pigments in the manufacture of roofing granules.
Some of the colors and blends listed herein will therefore be modified or discontinued; others may be added.

Texaco Representatives and Dealers know which items are now available in your area and will upon request be glad to show you new items as they are developed.

THE TEXAS COMPANY
Roofing Division.

CODE LETTERS

Indicate whether product is available, from which factories, in what colors, and shipping classification, as follows:

S —Stock Item

Factory Floor Stock Item; available for shipment in any quantity.

SO—Special Order Item

No Factory Floor Stocks; available **only on special order, for direct factory shipment** in minimum quantities of 50 squares of shingles or 100 rolls of roofing, plus overrun up to 10%. Must allow manufacturing time.

Product and Code No.	Colors	Available From: Port Neches, Texas	Port Wentworth, Ga.	Edge Moor, Del.	Lockport, Ills.	Headlap	Exposure	Strips or Units Per Square	Bundles Per Square	Sq. Ft. Material Furnished Per Sq.	Approx Ship'g Weight Per Square
 Code 2271 HEXAGON STRIP 11⅓″ x 36″	Gray-Green	S	S	S	S	2″	4⅓″	80	2	193.3	167
	Red	S	S	S	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	S	S	S	S						
	White	SO	—	—	—						
	Red Blend	S	S	S	S						
	Green Blend	S	S	S	S						
	Blue Blend	SO	—	—	SO						
Code 2272 HEXAGON STRIP 12⅓″ x 36″	Gray-Green	SO	SO	SO	—	3″	4⅓″	80	2	215.0	186
	Red	SO	SO	SO	SO						
	Blue-Black	SO	S	SO	SO						
	Forest Green	SO	S	—	S						
	Evergreen	—	—	SO	—						
	Tile Red	SO	SO	SO	—						
 Code 2273 HEXAGON STRIP 12½″ x 36″	Gray-Green	SO	SO	SO	S	4½″	4″	100	3	262.5	226
	Red	SO	SO	SO	S						
	Blue-Black	S	S	SO	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	SO	SO	SO	S						
	Red Blend	SO	SO	SO	S						
	Green Blend	SO	SO	SO	S						

ALL SHINGLES CARRY UNDERWRITERS' CLASS "C" LABEL

SPECIFICATIONS
TEXACO ASPHALT SHINGLES

Product and Code No.	Colors	Available From: Port Neches, Texas	Port Wentworth, Ga.	Edge Moor, Del.	Lockport, Ills.	Headlap	Exposure	Strips or Units Per Square	Bundles Per Square	Sq. Ft. Material Furnished Per Sq.	Approx. Ship'g Weight Per Square
 **Code 2274 THICK BUTT STRIP 12″ x 36″**	Gray-Green	S	S	S	S	2″	5″	80	2	236.0	210
	Red	S	S	S	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	S	S						
	Evergreen	—	S	S	S						
	Tile Red	S	S	S	S						
	White	80	—	—	—						
	Redfield Blend	S	S	S	S						
	Greenfield Blend	S	S	S	S						
	Blue Blend	80	80	S	80						
	Slate Blend	—	80	S	80						
 **Code 2275 THICK BUTT STRIP WITH TEXTURE 12″ x 36″**	Gray-Green	80	S	80	80	2″	5″	80	2	236.0	210
	Red	80	S	80	80						
	Blue-Black	S	S	80	S						
	Forest Green	S	S	S	80						
	Evergreen	—	S	80	S						
	Tile Red	S	S	80	S						
	Redfield Blend	S	S	S	80						
	Greenfield Blend	S	S	S	80						
	Blue Blend	80	80	S	S						
	Slate Blend	—	80	S	S						
 **Code 2276 THICK BUTT STRIP 15″ x 36″**	Gray-Green	80	S	80	S	5″	5″	80	3	296.0	250
	Red	80	S	80	S						
	Blue-Black	80	S	S	S						
	Forest Green	80	S	S	S						
	Evergreen	—	S	S	S						
	Tile Red	80	S	80	S						
	Redfield Blend	80	S	S	S						
	Greenfield Blend	80	S	S	S						
 **Code 2277 THICK BUTT STRIP WITH TEXTURE 15″ x 36″**	Gray-Green	—	80	—	—	5″	5″	80	3	296.0	250
	Red	—	80	—	—						
	Blue-Black	—	80	—	—						
	Forest Green	—	80	—	—						
	Tile Red	—	80	—	—						
	Redfield Blend	—	80	—	—						
	Greenfield Blend	—	80	—	—						

ALL SHINGLES CARRY UNDERWRITERS' CLASS "C" LABEL

SPECIFICATIONS
TEXACO ASPHALT SHINGLES

Product and Code No.	Colors	Available From: Port Neches, Texas	Port Wentworth, Ga.	Edge Moor, Del.	Lockport, Ills.	Headlap	Exposure	Strips or Units Per Square	Bundles Per Square	Sq. Ft. Material Furnished Per Sq.	Approx. Ship'g Weight Per Square
 **Code 2268 SQUARE BUTT STRIP 10″ x 36″**	Gray-Green	SO	SO	S	S	2″	4″	100	2	244.5	210
	Red	SO	SO	SO	SO						
	Blue-Black	SO	S	S	S						
	Forest Green	SO	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	SO	—	S	SO						
	Redfield Blend	SO	SO	SO	S						
	Greenfield Blend	SO	—	SO	S						
 **Code 2269 SQUARE BUTT STRIP 12½″ x 36″**	Gray-Green	SO	SO	S	S	4½″	4″	100	3	307.0	266
	Red	SO	SO	SO	S						
	Blue-Black	SO	S	S	S						
	Forest Green	SO	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	SO	—	SO	S						
	Redfield Blend	SO	SO	SO	S						
	Greenfield Blend	SO	—	S	S						
	Slate Blend	—	S	—	—						
 **Code 2266 GIANT INDIVIDUAL 12″ x 16″**	Gray-Green	SO	S	S	SO	6″	5″	228	4	304.0	825
	Red	SO	S	SO	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	SO	S	SO	SO						
	Autumn Blend	S	S	SO	SO						
 **Code 2267 DUTCH LAP Giant Individual 16″ x 12″ (3″ side-lap)** Price includes clips.	Gray-Green	SO	S	S	SO	2″	10″x13″	114	2	152.0	163
	Red	SO	S	SO	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	SO	S	SO	SO						
	Autumn Blend	S	S	SO	SO						

ALL SHINGLES CARRY UNDERWRITERS' CLASS "C" LABEL

SPECIFICATIONS
TEXACO ASPHALT SHINGLES

Product and Code No.	Colors	Available From: Port Neches, Texas	Port Wentworth, Ga.	Edge Moor, Del.	Lockport, Ills.	Headlap	Exposure	Strips or Units Per Square	Bundles Per Square	Sq. Ft. Material Furnished Per Sq.	Approx. Ship'g Weight Per Square
 **Code 2265 STANDARD INDIVIDUAL 9" x 12¾"**	Gray-Green	S	S	—	S	4¾"	4"	380	3 (formerly 4)	302.5	253
	Red	S	S	—	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	S	S	SO	S						
	Blue Blend	—	—	—	S						
	Autumn Blend	SO	S	—	—						
 **Code 2280 STA-FAST 16" x 16"** Price includes staples.	Blue-Black	S	S	—	—	2½" side-lap	13½" x 13½"	82	2	144.9	138
	Forest Green	S	S	—	—						
	Tile Red	S	S	—	—						
	Red Blend	—	S	—	—						
	Green Blend	S	S	—	—						
	Slate Blend	—	S	—	—						

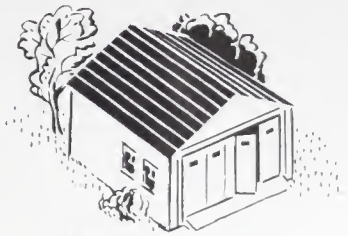
ALL SHINGLES CARRY UNDERWRITERS' CLASS "C" LABEL

★ MILLIONS KNOW TEXACO ★

ASPHALT ROLL ROOFINGS

BUILT-UP ROOFS

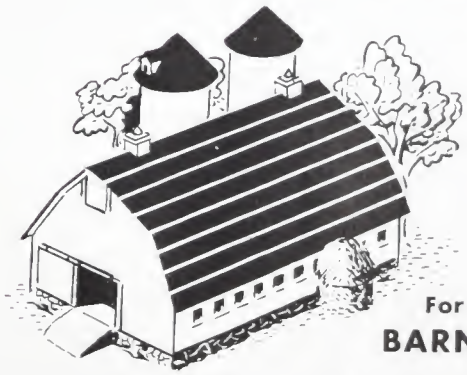
COATINGS and PLASTIC CEMENT



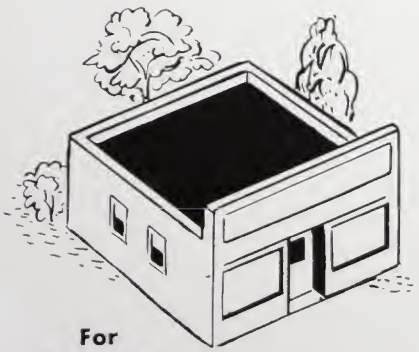
For
GARAGES

For
SHEDS

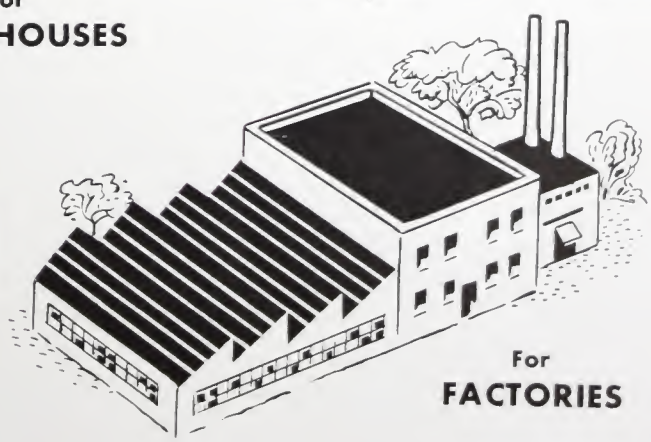
For
WAREHOUSES



For
BARNS



For
STORES



For
FACTORIES

DIRECTIONS FOR APPLYING SMOOTH AND MINERAL SURFACED ROLL ROOFINGS

It is essential that this roofing be applied strictly in accordance with the following directions. CAREFUL and CORRECT application is necessary for best results.

Roof Deck

The pitch of the roof should be not less than 3" per horizontal foot.

New roof decks should be constructed with matched, well seasoned lumber not over 8" in width, nor less than ⅞" thick, free from large knots or holes. Boards should be laid in close contact, securely fastened to the rafters. Avoid the use of unseasoned lumber since it is likely to shrink and warp. Cover knotholes with tin. Be sure the roof deck is dry at time roofing is applied and provide ventilation in building while plaster is drying out.

If old wood shingles are not badly curled, and both shingles and deck are sound, it is practical to lay the new roofing over the wood shingles, thereby obtaining added insulation. In this case it is necessary to nail down all curled wood shingles and to replace missing ones. If old wood shingles are removed a smoother job can be obtained, but if they are not removed, the appearance of the finished roof can be improved by the use of beveled wood strips nailed just below the butts of the old shingles. If wood shingles are removed completely, fill any spaces wider than ½" with boards of the same thickness as the old deck and nail securely. It is preferable to remove old roll roofing before laying new roll roofing.

Remove all loose material from the roof.
Install pipes and gutters before laying roofing.

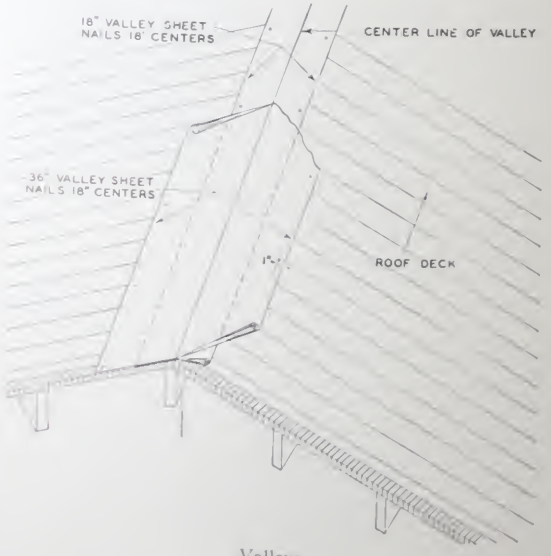
Metal Edging Strips

Edging Strips

The use of galvanized metal edging strips, painted both sides, at eaves and gable ends, is recommended. Allow this metal edging strip to project about ½ inch beyond the edges and nail in place securely. This will improve appearance.

Valleys

Apply a double thickness of roofing in all valleys. Lay the first strip 18" wide, with the weather side down. Lay the second strip 36" wide, with the weather side up. Nail each sheet at 18" intervals along edges after making certain that sheet lies smoothly and conforms to the contour of the roof. Strike chalk lines 12" from center of valley from eave to ridge for a guide in cutting roofing to be laid. Make certain that all nails in the valley sheets are at least 3" outside of these lines.



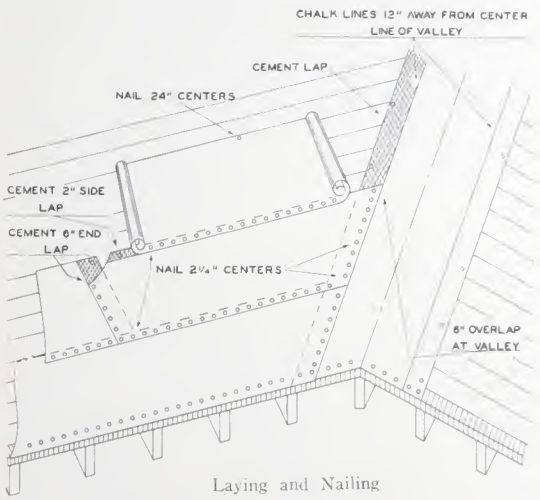
Valleys

Laying

Do not lay this roofing at temperatures below 40°F. If temperature is below 60°F., store in a warm place prior to laying, and unroll slowly and carefully. Let

sheets lie flat until the curl is out of them. If temperature is 90°F., or higher, take precautions not to mar surface of the roof. Rubber-soled shoes should be used.

Begin at lower edge of roof and lay roofing along eave allowing lower edge to project about ⅛" over edging strip. Nail every 24" along upper edge, placing nails 1" from edge. Lay next sheet with lower edge overlapping first sheet 2". Nail this sheet along top side every 24", 1" from edge. Proceed up the roof, nailing each sheet at the top and allowing it to lay until perfectly smooth before nailing lower edge. Apply lap cement in a liberal and continuous coating to upper 2" of each sheet. Cement should be allowed to become slightly tacky before nailing. Make all end laps at valleys 6" wide, cementing thoroughly. If necessary to soften cement, place cans in hot water. *Do not place cement near fire.*



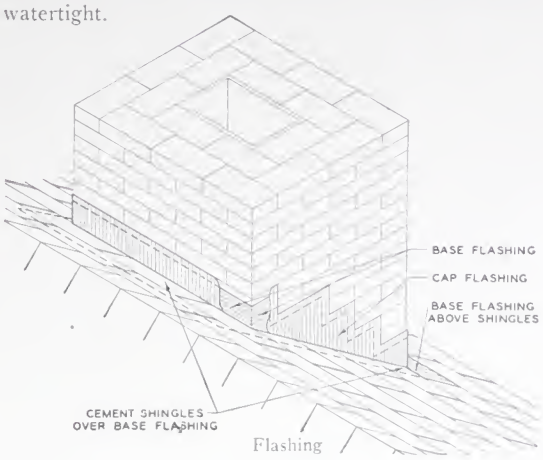
Laying and Nailing

Nailing

Drive nails straight and flush, but do not countersink. On new work, use the nails furnished with the roofing. Over old wood shingles, use No. 11 Gauge large head galvanized nails 1½" long. Remove any nails driven into cracks or knot holes and repair hole with Plastic Asbestos Roofing Cement. Trim roofing at valleys parallel to center of valley along a chalk line. Drive all nails 1" from edge of roofing and 2¼" apart, starting at center of sheet and working toward the ends.

Flashing

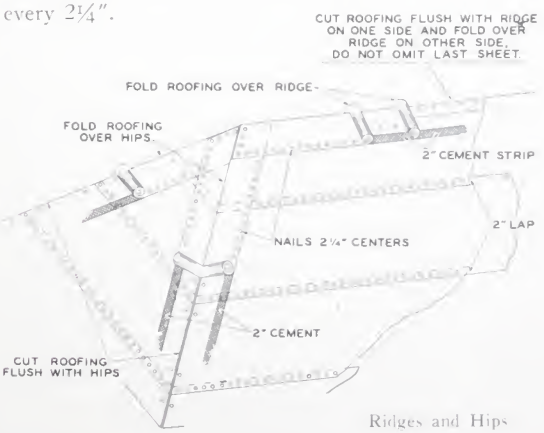
Metal flashings are recommended. Where this is too expensive, cut roofing to suitable size pieces. When flashing brick work, rake a joint at least 1" deep and insert top edge of flashing. Use Plastic Asbestos Roofing Cement liberally to make flashings watertight.



Flashing

Ridges and Hips

Use strips of roofing not less than 18" wide for all ridges and hips. A double thickness is recommended for ridges in which case the first strip may be scatter-nailed only. Final ridge and hip strips should be cemented thoroughly and nailed 1" from edges every 2¼".



Ridges and Hips

Finishing

Remove all scrap material from roof and inspect roof carefully for defects. If staging has been used, remove, making certain roofing is not damaged. Repair any holes in roofing with Plastic Asbestos Roofing Cement.

Smooth Surfaced Roofing should be coated with Asbestos Fibre Roof Coating three years after application and at three year intervals.

DIRECTIONS FOR APPLYING DOUBLE COVERAGE MINERAL SURFACED ROLL ROOFINGS

It is essential that this roofing be applied strictly in accordance with the following directions. CAREFUL and CORRECT application is necessary for best results.

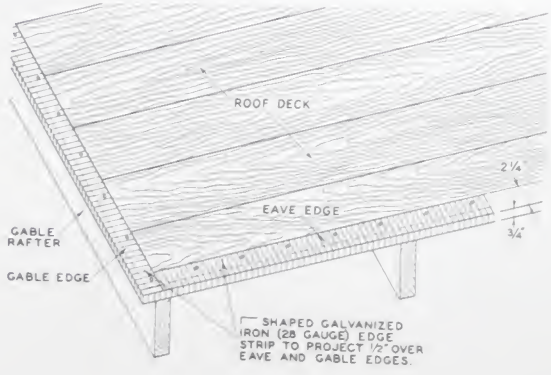
Roof Deck

The pitch of the roof should be not less than ¼" per horizontal foot.

New roof decks should be constructed with matched, well seasoned lumber not over 8" in width, nor less than ⅞" thick, free from large knots or holes. Boards should be laid in close contact, securely fastened to the rafters. Avoid the use of unseasoned lumber since it is likely to shrink and warp. Cover knotholes with tin. Be sure the roof deck is dry at time roofing is applied, and provide ventilation in building while plaster is drying out.

Concrete or gypsum block decks should be covered with one or more layers of Asphalt Saturated Felt laid in accordance with Built-Up Roof Specifications prior to the application of this roofing as a Top course.

Remove all loose material from the roof.
Install pipes and gutters before laying roofing.



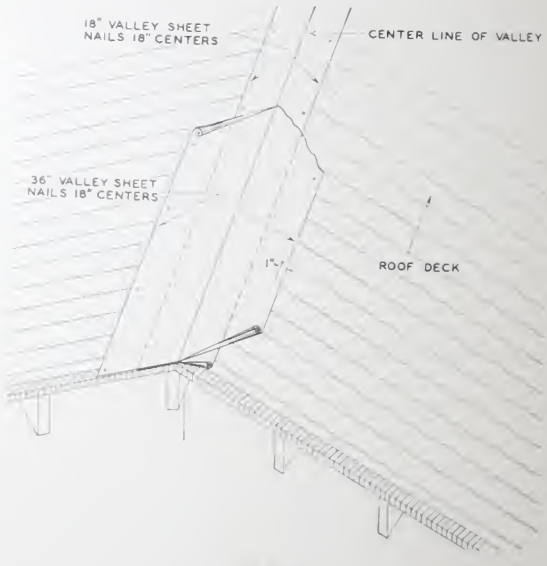
Metal Edging Strips

Edging Strips

The use of galvanized metal edging strips, painted both sides, at eaves and gable ends, is recommended. Allow this metal edging strip to project about ½ inch beyond the edges and nail in place securely. This will improve appearance.

Valleys

Apply a double thickness of 90 Lb. Mineral Surfaced Roll Roofing in all valleys. Lay the first strip 18" wide, with the weather side down. Lay the second strip 36" wide, with the weather side up. Nail each sheet at 18" intervals along edges after making sure that sheet lies smoothly and conforms to the contour of the roof. Strike chalk lines 12" from center of valley from eave to ridge for a guide in cutting roofing to be laid. Make sure that all nails in the valley sheets are at least 3" outside of these lines.



Valleys

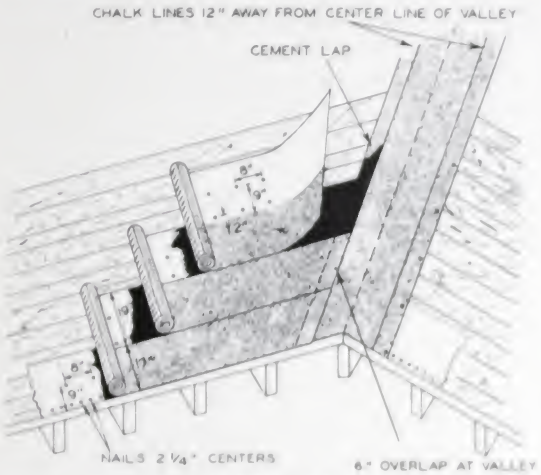
Laying

Do not lay this roofing at temperatures below 40° F. If temperature is below 60° F., store in a warm place prior to laying and unroll slowly and carefully. Let sheets lie flat until the curl is out of them. If temperature is 90° F., or higher, take precautions not to mar surface of the roof. Rubber-soled shoes should be used.

Cut the roofing along the edge of the surfaced portion, and lay this 19" sheet of saturated felt along the

eave, allowing lower edge to project ⅜" over edging strip. Nail this sheet every 2¼" along the lower edge and every 8" along a line 9" from the lower edge.

Mop a complete sheet of roofing into this saturated felt with hot asphalt, leaving the unsurfaced side up the roof. Nail the unsurfaced area securely and proceed with succeeding courses, cementing the mineral surfaced portion of each sheet over the 19" selvage edge of the preceding sheet with hot asphalt. All end laps should be at least 6" and thoroughly cemented.



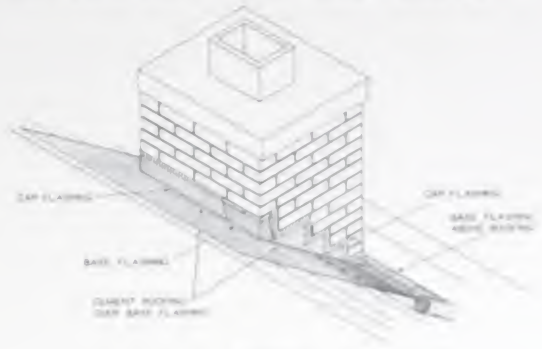
Laying and Nailing

Nailing

Drive nails straight and flush, but do not countersink. Use No. 11 Gauge large head galvanized nails ¾" long. Remove any nails driven into cracks or knot holes, and repair hole with asphalt or Plastic Asbestos Roof Cement. Trim roofing at valleys parallel to center of valley along a chalk line. Drive all nails 8" apart through the unsurfaced portion only, using two rows, one 2" from the surfaced edge and the other 9".

Flashing

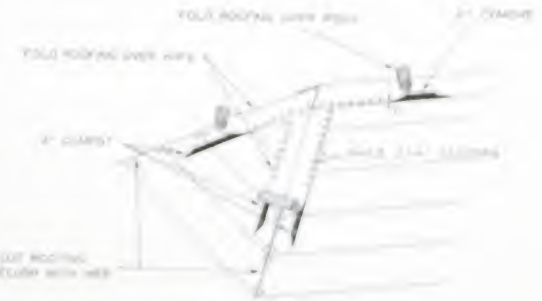
Metal flashings are recommended, but, where this is too expensive, cut roofing to suitable size pieces. When flashing brick work, rake a joint at least 1" deep and insert top edge of flashing. Use Plastic Asbestos Roof Cement liberally to make flashings watertight.



Flashing

Ridges and Hips

Use strips of roofing not less than 12" wide for all ridges and hips. A double thickness is recommended for ridges, in which case the first strip may be scatter nailed only. Final ridge and hip strips should be thoroughly cemented and nailed 1" from edges every 5½"



Ridges and Hips

Finishing

Remove all scrap material from roof and inspect roof carefully for defects. If staging has been used remove carefully, making sure roofing is not damaged. Repair any holes in roofing with Plastic Asbestos Roof Cement.

DIRECTIONS FOR APPLYING
DIAMOND POINT ROLL ROOFING

It is essential that this roofing be applied strictly in accordance with the following directions. CAREFUL and CORRECT application is necessary for best results.

Roof Deck

The pitch of the roof should be not less than 3" per horizontal foot. This roofing is intended only for use over old wood or asphalt shingles.

If old wood shingles are not badly curled, and both shingles and deck are sound, nail down all loose wood shingles and replace missing ones. The appearance of the finished roof can be improved by the use of beveled wood strips nailed just below the butts of the old shingles. Remove old ridge and hip shingles or strips and drive any loose or projecting nails.

Remove all loose material from the roof.

Install all new pipes or gutters before laying roofing.

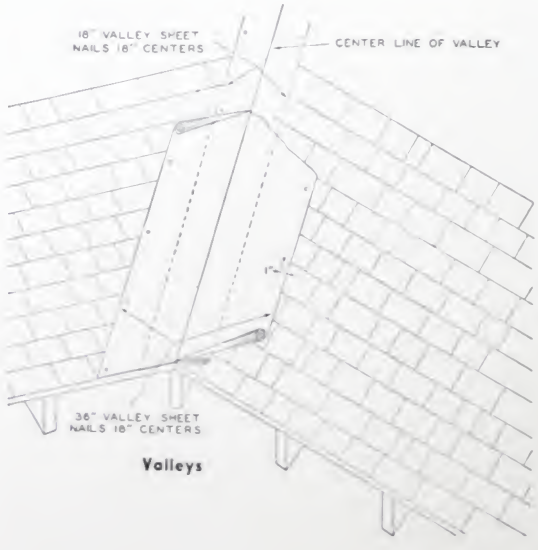
Valleys

Apply a double thickness of roofing in all valleys. Lay the first strip 18" wide, with the weather side down. Lay the second strip 36" wide, with the weather side up. Nail each sheet at 18" intervals along edges after making sure that sheet lies smoothly and conforms to the contour of the roof. Strike chalk lines 12" from center of valley from eave to ridge for a guide in cutting roofing to be laid. Make sure that all nails in the valley sheets are at least 3" outside of these lines. (See sketch below.)

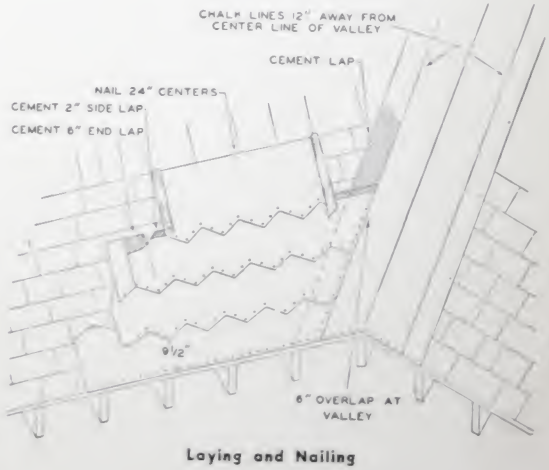
Laying

Do not lay this roofing at temperatures below 40° F. If temperature is below 60° F., store in a warm place prior to laying and unroll slowly and carefully. Let sheets lie flat until the curl is out of them. If temperature is 90° F., or higher, take precautions not to mar surface of the roof. Rubber-soled shoes should be used.

Begin at lower edge of roof and lay one sheet of roofing with the straight edge along eave allowing lower edge to project about ½" over old roofing. Nail every 24" along upper edge, placing nails 1" from



Valleys

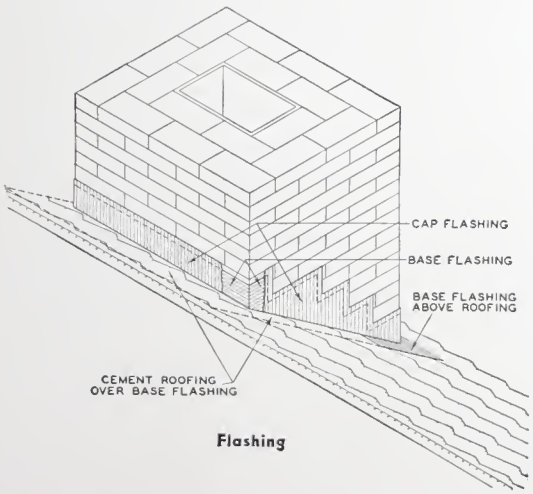


Laying and Nailing

edge. Lay next sheet with the points down and 9½" above eave. Nail this sheet along top side every 24", 1" from edge and proceed up the roof nailing each sheet at the top and allowing it to lay until perfectly smooth before nailing lower edge. Apply lap cement in a liberal and continuous coating to upper 2" of each sheet, placing points above points in preceding sheet and leaving full 2" lap. Cement should be allowed to become slightly tacky before nailing. Make all end and valley laps 6" wide, cementing thoroughly. Cut overlapping sheet at top of recess. If necessary to soften cement, place cans in hot water. Do not place cement near fire.

Nailing

Drive nails straight and flush, but do not countersink. Use No. 11 gauge large head galvanized nails 1½" long. Remove any nails driven into cracks or knot holes and repair hole with Texaco Plastic Asbestos Roof Cement. Trim roofing at valleys parallel to center of valley along a chalk line. Drive all nails 1" from edge of roofing and located at each point and recess and also in each side of all tabs halfway from point to recess. Start nailing at center of sheet and work toward the ends.



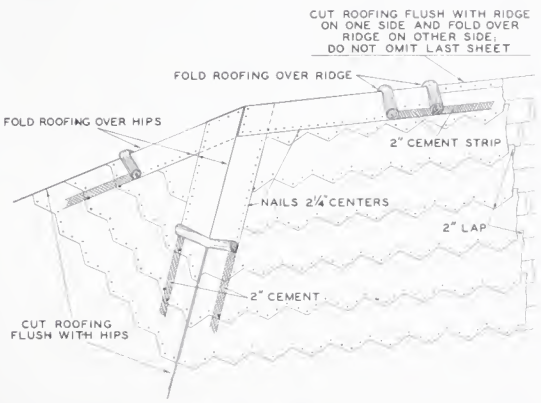
Flashing

Flashing

Metal flashings are recommended but where this is too expensive, cut roofing to suitable size pieces. When flashing brick work, rake a joint at least 1" deep and insert top edge of flashing. Use Texaco Plastic Asbestos Roof Cement liberally to make flashings watertight.

Ridges and Hips

Use strips of roofing not less than 18" wide for all ridges and hips. A double thickness is recommended for ridges in which case the first strip may be scatter nailed only. Final ridge and hip strips should be thoroughly cemented and nailed 1" from edges every 2¼".



Ridges and Hips

Finishing

Remove all scrap material from roof and inspect roof carefully for defects. If staging has been used, remove carefully, making sure roofing is not damaged. Repair any holes in roofing with Texaco Plastic Asbestos Roof Cement.

Mineral Surfaced Roll Roofings

The essential difference between these two products is in the weight and quality of the dry felt used as the base and the resulting quantity of asphalt saturant absorbed. The same high-quality Texaco Asphalts and long-wearing mineral granules are used in both products.

TEXACO Mineral Surfaced Roofing is also referred to as "90-lb. Slate." It is made with a 2-inch selvage edge from which the mineral surfacing has been omitted. It is generally believed that a tighter seam results from a selvage edge.

TEXACO Mineral Surfaced Roofing is manufactured in several attractive colors and will give long and satisfactory service at a moderate initial cost.

Recommended as a starting strip in the application of asphalt shingles, and for valleys and ridges. It is sometimes used as a "cap sheet" in the construction of Built-Up roofs.

NUTEX Mineral Surfaced Roofing is a lighter weight roofing made expressly to meet low-price competition. It is recommended only as a temporary covering but will give service fully equal to or better than that given by competitive roofings of similar construction and price.

TEXACO and NUTEX Mineral Surfaced Roofings are designed to meet service requirements on all classes of buildings on which mineral surfaced roll roofings are desired, and where the pitch or incline is not less than 3" per horizontal foot.

Government Specifications

Inquiries for Roll Roofings to meet U. S. Government Specifications should *always* be referred to The Texas Company *before* any quotation is made.

Colors

Available in popular colors. (See "Specifications.")

Fire-Resistance

TEXACO Mineral Surfaced Roofing bears the Underwriters' Label. NUTEX, made on a lighter felt base, does not.

Packages and Fixtures

Both TEXACO and NUTEX are furnished in rolls 36 inches wide, 36 feet long, containing 108 square feet, which is sufficient to cover 100 square feet of roof surface. Each roll is securely wrapped, headed and neatly labeled.

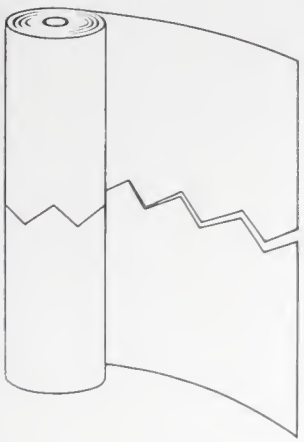
Nails and lap cement are included within each roll as follows:

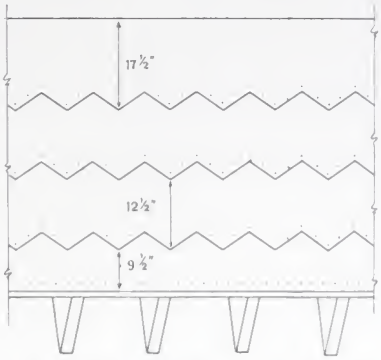
	LAP CEMENT	*NAILS*
TEXACO 90-lb.	1 Pint	Approx. 250 nails, 7/8" x 11 gauge, barbed, 7/16" heads, Hot-Dip galvanized.
NUTEX 75-lb.	1 Pint	Approx. 250 nails, 7/8" x 11 gauge, barbed, 7/16" heads, Hot-Dip Galvanized.

Roofings without "heads" and fixtures may also be furnished for DIRECT SHIPMENT FROM FACTORY.

Directions For Applying are included in each roll and should be followed carefully.

Texaco Diamond Point Roofing





Diamond Point Roofing Applied

Made from 32" Mineral Surfaced Roofing without selvage edge. The sheet is bisected by a zigzag cut through its center as illustrated above. Each roll thus contains two strips, the widest portion of which is 17½"; the narrowest, 14½". The two strips are held together in the roll by a thin, uncut portion of the asphalt coating but are easily separated when the roll is unwrapped.

Occasional trade reference to this product as "Split-Sheet" Roofing is therefore self-explanatory.

Diamond Point meets the demand for a colorful, fire-resistant, decorative roofing at a price less than the lowest priced shingles.

It provides a single-thickness covering, as evidenced by 128 square feet of material being furnished for each 100 square feet of roof surface. For that reason, and also because the edge is not cemented its full width (some applicators apply it without cementing the laps), we recommend it only for application over old shingles.

This product may be applied on roofs having a pitch or incline of 3" or more per horizontal foot. It will function more effectively on roofs of greater pitch.

Colors

Available in popular colors, solid and blended. (See "Specifications.")

Fire Resistance

Diamond Point bears the Underwriters' Laboratories Label.

Packages and Fixtures

Furnished in rolls 32 inches wide, containing two strips each 48 feet long, sufficient to cover 100 square feet of roof surface.

Rolls are not "headed" but are securely wrapped and neatly labeled.

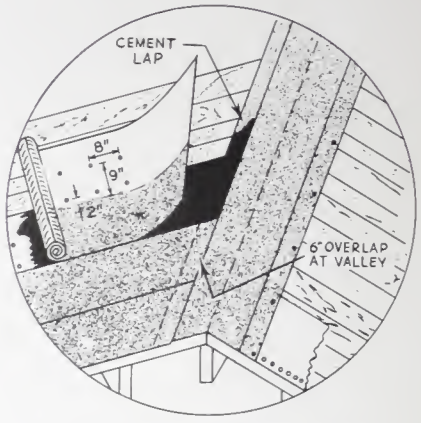
Neither nails nor lap cement are included in package or price.

Our Directions For Applying recommend the use of No. 11 gauge, large head, galvanized nails, 1½" long, for application over old shingle roofs. Approximately 3 lbs. per square are required.

Texaco Liquid Asphalt Roof Coating is recommended for use in cementing the laps. Approximately one (1) quart per square is required.

Directions For Applying are included in each roll and should be followed carefully.

Texaco Double-Coverage Mineral-Surfaced Roofing



Double Coverage M.S. Roofing Applied

This product, used as directed, results in the simplest form of built-up roof—and is available in color. In other types of built-up roof, a colored surface is usually not available except at increased cost. In this product, not only is color available but a choice of colors is offered, thus permitting the roof to be decorative and of truly attractive appearance.

Although furnished in roll roofing form, it is essentially different and has these outstanding advantages:

(1) The factory-applied coating of asphalt and mineral surfacing makes a weather surface of mineral granules pleasing in color, firmly embedded in an asphalt coating of uniform thickness.

(2) The product is simple and economical to lay, since only one mopping of asphalt is required on each sheet, the coating of asphalt on the exposed portion having been applied at the factory.

(3) The width of the lap is more than half the width of the roll, which means that there are two layers of felt, two layers of asphalt and one layer of granules over the entire roof area, with three layers of felt and three layers of asphalt at the joints.

(4) The over-lap of each sheet upon the sheet below is 19″. The two layers of felt are firmly bonded together with a mopping of hot Texaco Roofing Asphalt.

(5) All nails are concealed and covered with one layer of felt and two layers of asphalt.

(6) This product is particularly suitable for use on pitches of 3″ to 5″, though it may be used on any pitch not less than ¼″ per horizontal foot.

Texaco Double-Coverage Mineral Surfaced Roofing is frequently chosen for roofing industrial buildings and large farm buildings. It can be used either as a complete roof in itself or as a cap-sheet for a built-up roof. It is also used on the steep portions of saw-tooth roof construction for industrial buildings.

It is the simplest form of built-up roof. The 19″ lap of each sheet over the preceding sheet insures protection from leaks due to wind-driven, heavy rains.

Colors

Available in popular solid colors. (See "Specifications.")

Fire Resistance

It is fire-resistant and bears the Underwriters' Laboratories Label.

Packages

Furnished in rolls 36″ wide, 36 feet long, containing 108 square feet, sufficient to cover 51 square feet of roof surface.

Rolls are not headed but are securely wrapped and neatly labeled.

Neither nails nor lap cement is included in packages or price. We recommend the use of 11 gauge, galvanized, large-head nails, ⅞″ long. Approximately 1 lb. per square is required.

Application

Directions For Applying are included in each roll and should be followed carefully.

Smooth Surfaced Roll Roofings

TEXACO Roofing is our highest-quality smooth roofing. It is surfaced with light-colored, coarse-grain talc to give it an attractive appearance and to prevent sticking in the roll. TEXACO Roofing is recommended wherever unusual performance is desired and, under normal conditions, will last as long as the building it covers if treated with an application of Texaco Asbestos Fibre Roof Coating every two or three years.

TIGER Roofing has earned an enviable reputation for durability and excellence of quality at a moderate price. It is in general use among farmers, dairymen, railroads, large industrial plants, etc., where both service and economy are demanded. It is surfaced with fire-proof, moisture-proof mica.

NUTEX is our lowest priced smooth surfaced roofing. It is made expressly to meet competition. Lighter felt is used than for any of our other roll roofings. It is recommended only as a temporary covering for sheds, buildings, etc., but will give service fully equal to or better than that given by competitive roofings of similar construction and price.

TEXACO, TIGER and NUTEX are designed to meet service requirements on all classes of buildings on which roll roofing is desired, and where the pitch or incline is not less than 3″ per horizontal foot.

Government Specifications

Inquiries for Roll Roofings to meet U. S. Government Specifications should *always* be referred to The Texas Company *before* any quotation is made.

Fire-Resistance

All weights of TEXACO and the Heavy (55-lb.) weight of TIGER bear the Underwriters' Laboratories Label.

Packages and Fixtures

All Smooth Surfaced Roll Roofings are furnished in rolls 36 inches wide, 36 feet long, containing 108 square feet, which is sufficient to cover 100 square feet of roof surface. Each roll is securely wrapped, headed and neatly labeled.

Nails and lap cement are included within each roll as follows:

	LAP CEMENT	*NAILS*
TEXACO (all weights)	1 Quart	Approx. 250 nails, 7/8″ x 12 gauge, spiral, 1/2″ heads. Hot-Dip Galvanized.
TIGER (all weights)	1 Pint	Approx. 250 nails, 7/8″ x 11 gauge, barbed, 7/16″ heads. Hot-Dip Galvanized.
NUTEX (all weights)	1 Pint	Approx. 250 nails, 7/8″ x 11 gauge, barbed, 7/16″ heads. Ungalvanized.

Roofings without "heads" and fixtures may be furnished for DIRECT SHIPMENT FROM FACTORY.

Directions For Applying are included in each roll and should be followed carefully.

DIRECTIONS FOR APPLYING
TEXACO BUILT-UP ROOFS
Specification No. 1
(Over Concrete or Gypsum)
4 sheets No. 15 Texaco Asphalt Saturated Felt

MATERIALS: Approximately the following quantities of materials are required per 100 square feet of roof area:
1 gallon Texaco Liquid Asphalt Roof Coating
432 sq. ft. Texaco No. 15 Asphalt Saturated Felt
150 pounds Texaco Solid Roofing Asphalt
400 pounds Gravel or 300 pounds Slag

INCLINE: On decks having a pitch or incline of not more than 1" per horizontal foot, Texaco No. 35 Solid Roofing Asphalt, Texaco No. 30 Solid Roofing Asphalt or Texaco No. 160 Waterproofing Asphalt shall be used. On decks having an incline of over 1" but not exceeding 3" per horizontal foot, Texaco No. 30 Solid Roofing Asphalt shall be used.

ROOF DECK: Shall be dry and free from all dirt and loose material. It shall be properly graded to outlets.

APPLICATION:

First: The deck shall be coated uniformly with Texaco Liquid Asphalt Roof Coating, using approximately one gallon per 100 square feet, and allowed to dry thoroughly.

Second: Over the entire surface apply Texaco No. 15 Asphalt Saturated Felt. Each sheet shall be mopped to the roof deck and to the preceding sheet, using Texaco Solid Roofing Asphalt, and shall overlap the preceding sheet 27½", thus exposing 8½". The entire surface between sheets of felt shall be mopped with hot asphalt and the felt unrolled closely behind the asphalt mopping.

By laying successive sheets overlapped in this manner, a uniform covering consisting of four sheets of felt and four moppings of hot asphalt will be provided over the entire roof except at the starting and finishing sides of roof where felt should be cut to special widths to provide this minimum covering. Approximately 25 pounds of Texaco Solid Roofing Asphalt per 100 square feet are required for each mopping.

NOTE: If 32" width felt is used, lap each sheet 24½", exposing 7½".

Third: Over the felts thus laid, apply a uniform coating of Texaco Solid Roofing Asphalt, using approximately 50 pounds per 100 square feet, in which, while hot, embed approximately 400 pounds of gravel or 300 pounds of slag per 100 square feet. The gravel or slag shall be from ¼" to ⅝" in size, dry and free from dirt and foreign matter, and shall be spread in as the application progresses so that it will be embedded thoroughly and uniformly.

General: Texaco Solid Roofing Asphalt shall be heated to 400° Fahrenheit and applied at not less than 350° Fahrenheit.

The Texaco Asphalt Saturated Felt shall be laid without wrinkles or buckles, and the roof shall be finished in a uniform and workmanlike manner.

Specification No. 2
(Over Wood)
1 sheet No. 30 and 3 sheets No. 15 Texaco Asphalt Saturated Felt

MATERIALS: Approximately the following quantities of materials are required per 100 square feet of roof area:
108 sq. ft. Unsaturated Sheathing Paper
108 sq. ft. Texaco No. 30 Asphalt Saturated Felt
324 sq. ft. Texaco No. 15 Asphalt Saturated Felt
125 pounds Texaco Solid Roofing Asphalt
400 pounds Gravel or 300 pounds Slag

INCLINE: On decks having a pitch or incline of not more than 1" per horizontal foot, Texaco No. 35 Solid Roofing Asphalt, Texaco No. 30 Solid Roofing Asphalt or Texaco No. 160 Waterproofing Asphalt shall be used. On decks having an incline of over 1" but not exceeding 3" per horizontal foot, Texaco No. 30 Solid Roofing Asphalt shall be used.

ROOF DECK: Shall be of seasoned lumber, dry, smooth and free from loose boards, large cracks or knot holes and swept clear of all foreign matter. It shall be properly graded to outlets.

APPLICATION:

First: Apply one layer of Unsaturated Sheathing Paper over the entire roof deck, lapping 2". Nail through the laps every 12". End laps shall be 6", and nails spaced 6" apart. The first sheet laid should be 18" wide, followed by full width 36" sheets, so that laps in the Texaco Asphalt Saturated Felt, later applied, will fall half-way between the laps in the Unsaturated Sheathing Paper.

Second: One layer of Texaco No. 30 Asphalt Saturated Felt shall be laid over the Unsaturated Sheathing Paper, lapping 2". Nail through the laps and longitudinal centers with large head roofing nails, spaced 12" apart. All end laps shall be 6" and nails spaced 3" apart. It is essential that all nails be driven through round tin discs or tin caps.

Third: Over the entire surface apply Texaco No. 15 Asphalt Saturated Felt. Each sheet shall be laid separately and embedded the full width in Texaco Solid Roofing Asphalt, and shall overlap the preceding sheet 25", thus exposing 11". The entire surface between sheets of felt shall be mopped with hot asphalt and the felt unrolled closely behind the asphalt mopping.

By laying successive sheets overlapped in this manner, a uniform covering consisting of 1 sheet Unsaturated Sheathing Paper, 1 sheet No. 30 Felt, 3 sheets No. 15 Felt and 3 moppings of hot asphalt will be provided over the entire roof except at the starting and finishing sides of roof where No. 15 Felt should be cut to special

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widths to provide this minimum covering. Approximately 25 pounds of Texaco Solid Roofing Asphalt per 100 square feet are required for each mopping.

Note: If 32" width felt is used, lap each sheet 22", exposing 10".

Fourth: Over the felts thus laid, apply a uniform coating of Texaco Solid Roofing Asphalt, using approximately 50 pounds per 100 square feet, in which, while hot, embed approximately 400 pounds of gravel or 300 pounds of slag per 100 square feet. The gravel or slag shall be from ¼" to ⅝" in size, dry and free from dirt and foreign matter, and shall be spread in as the application progresses so that it will be embedded thoroughly and uniformly.

General: Texaco Solid Roofing Asphalt shall be heated to 400° Fahrenheit and applied at not less than 350° Fahrenheit.

The Texaco Asphalt Saturated Felt shall be laid without wrinkles or buckles, and the roof shall be finished in a uniform and workmanlike manner.

Specification No. 3

(Over Concrete or Gypsum)

3 sheets No. 15 Texaco Asphalt Saturated Felt

MATERIALS: Approximately the following quantities of materials are required per 100 square feet of roof area:
1 gallon Texaco Liquid Asphalt Roof Coating
324 sq. ft. Texaco No. 15 Asphalt Saturated Felt
125 pounds Texaco Solid Roofing Asphalt
400 pounds Gravel or 300 pounds Slag

INCLINE: On decks having a pitch or incline of not more than 1" per horizontal foot, Texaco No. 35 Solid Roofing Asphalt, Texaco No. 30 Solid Roofing Asphalt or Texaco No. 160 Waterproofing Asphalt shall be used. On decks having an incline of over 1" but not exceeding 3" per horizontal foot, Texaco No. 30 Solid Roofing Asphalt shall be used.

ROOF DECK: Shall be dry and free from all dirt and loose material. It shall be properly graded to outlets.

APPLICATION:

First: The deck shall be coated uniformly with Texaco Liquid Asphalt Roof Coating, using approximately one gallon per 100 square feet, and allowed to dry thoroughly.

Second: Over the entire surface apply Texaco No. 15 Asphalt Saturated Felt. Each sheet shall be mopped to the roof deck and to the preceding sheet, using Texaco Solid Roofing Asphalt, and shall overlap the preceding sheet 25", thus exposing 11". The entire surface between sheets of felt shall be mopped with hot asphalt and the felt unrolled closely behind the asphalt mopping.

By laying successive sheets overlapped by this manner, a uniform covering consisting of three sheets of felt and three moppings of hot asphalt will be provided over the entire roof except at the starting and finishing sides of roof where felt should be cut to special widths to provide this minimum covering. Approximately 25 pounds of Texaco Solid Roofing Asphalt per 100 square feet are required for each mopping.

Note: If 32" width felt is used, lap each sheet 22", exposing 10".

Third: Over the felts thus laid, apply a uniform coating of Texaco Solid Roofing Asphalt, using approximately 50 pounds per 100 square feet, in which, while hot, embed approximately 400 pounds of gravel or 300 pounds of slag per 100 square feet. The gravel or slag shall be from ¼" to ⅝" in size, dry and free from dirt and foreign matter, and shall be spread in as the application progresses so that it will be embedded thoroughly and uniformly.

General: Texaco Solid Roofing Asphalt shall be heated to 400° Fahrenheit and applied at not less than 350° Fahrenheit.

The Texaco Asphalt Saturated Felt shall be laid without wrinkles or buckles, and the roof shall be finished in a uniform and workmanlike manner.

Specification No. 4

(Over Wood)

1 sheet No. 30 and 2 sheets No. 15 Texaco Asphalt Saturated Felt

MATERIALS: Approximately the following quantities of materials are required per 100 square feet of roof area:
108 sq. ft. Unsaturated Sheathing Paper
108 sq. ft. Texaco No. 30 Asphalt Saturated Felt
216 sq. ft. Texaco No. 15 Asphalt Saturated Felt
100 pounds Texaco Solid Roofing Asphalt
400 pounds Gravel or 300 pounds Slag

INCLINE: On decks having a pitch or incline of not more than 1" per horizontal foot, Texaco No. 35 Solid Roofing Asphalt, Texaco No. 30 Solid Roofing Asphalt or Texaco No. 160 Waterproofing Asphalt shall be used. On decks having an incline of over 1" but not exceeding 3" per horizontal foot, Texaco No. 30 Solid Roofing Asphalt shall be used.

ROOF DECK: Shall be of seasoned lumber, free, smooth and free from loose boards, large cracks or knot holes and swept clear of all foreign matter. It shall be properly graded to outlets.

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APPLICATION:

First: Apply one layer of Unsaturated Sheathing Paper over the entire roof deck, lapping 2". Nail through the laps every 12". End laps shall be 6", and nails spaced 6" apart. The first sheet laid should be 18" wide, followed by full width 36" sheets, so that laps in the Texaco Asphalt Saturated Felt, later applied, will fall half-way between the laps in the Unsaturated Sheathing Paper.

Second: One layer of Texaco No. 30 Asphalt Saturated Felt shall be laid over the Unsaturated Sheathing Paper, lapping 2". Nail through the laps and longitudinal centers with large head roofing nails, spaced 12" apart. All end laps shall be 6" and nails spaced 3" apart. It is essential that all nails be driven through round tin discs or tin caps.

Third: Over the entire surface apply Texaco No. 15 Asphalt Saturated Felt. Each sheet shall be laid separately and embedded the full width in Texaco Solid Roofing Asphalt, and shall overlap the preceding sheet 19", thus exposing 17". The entire surface between sheets of felt shall be mopped with hot asphalt and the felt unrolled closely behind the asphalt mopping.

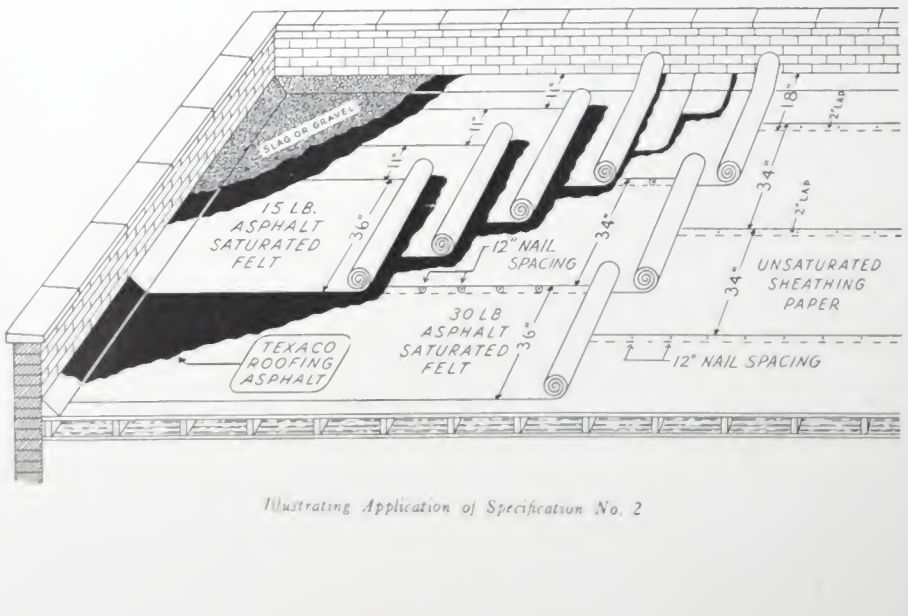
By laying successive sheets overlapped in this manner, a uniform covering consisting of 1 sheet Unsaturated Sheathing Paper, 1 sheet No. 30 Felt, 2 sheets No. 15 Felt and 2 moppings of hot asphalt will be provided over the entire roof except at the starting and finishing sides of roof where No. 15 Felt should be cut to special widths to provide this minimum covering. Approximately 25 pounds of Texaco Solid Roofing Asphalt per 100 square feet are required for each mopping.

NOTE: If 32" width felt is used, lap each sheet 17", exposing 15".

Fourth: Over the felts thus laid, apply a uniform coating of Texaco Solid Roofing Asphalt, using approximately 50 pounds per 100 square feet, in which, while hot, embed approximately 400 pounds of gravel or 300 pounds of slag per 100 square feet. The gravel or slag shall be from ¼" to ⅝" in size, dry and free from dirt and foreign matter, and shall be spread in as the application progresses so that it will be embedded thoroughly and uniformly.

General: The Texaco Solid Roofing Asphalt shall be heated to 400 degrees Fahrenheit and applied at not less than 350 degrees Fahrenheit.

The Texaco Asphalt Saturated Felt shall be laid without wrinkles or buckles, and the roof shall be finished in a uniform and workmanlike manner.



Illustrating Application of Specification No. 2

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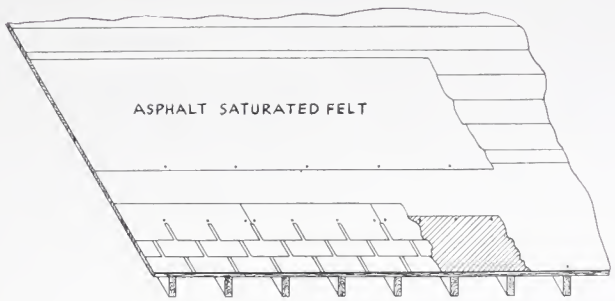
Texaco Asphalt Saturated Felt



Use of Asphalt Saturated Felt Under
Thick Butt Strip Shingles

Used principally in the construction of Built-Up roofs, the sheets being applied with such overlap as may be required, mopped between and on top with Texaco Roofing Asphalt and then covered with either gravel or slag.

Another important use is for application over the roof deck under all types of asphalt shingle, asbestos shingle, slate and tile roofings to prevent condensation and afford better insulation.

Asphalt Saturated Felt also is used for general dampproofing purposes.

This product is manufactured in two standard weights—No. 15 and No. 30, both in 36″ width. The numbers represent *weight in pounds per 100 square feet—NOT* per *108* square feet. This distinction is important because sometimes weights are quoted on the basis of 108 square feet. Unless the customer understands this distinction he is likely to be misled. Actually 15-lb. or 30-lb. felt quoted on the basis of 108 square feet is approximately equivalent to 14-lb. or 28-lb. felt when quoted on the basis of 100 square feet. The purchaser must rely solely upon the integrity of the manufacturer and the identification of the product because *the difference in weight, while of importance in relation to the strength and life of the product, is not readily apparent to the average customer.*

Fire Resistance

Both 15-lb. and 30-lb. weights bear the Underwriters' Label.

Packages

Furnished in securely wrapped and neatly labeled rolls without heads or fixtures.

Line Markings

All Texaco Asphalt Saturated Felts are line-marked, to facilitate application, as follows:

No. 15—36″ width: 8½″, 11″ and 17″ from each edge—a total of 6 lines on sheet.

No. 30—36″ width: 2″ from each edge—total of 2 lines per sheet.

NOTE: From Edge Moor, Del., Plant only, No. 30 Felt is also line marked 17″ from each edge—total of 4 lines.

Texaco Solid Roofing Asphalt

In the modern research laboratories of The Texas Company, the superior characteristics of Texaco Roofing Asphalts have been constantly improved. Today, these superior characteristics are internationally accepted as "standards":

HIGH PURITY: Texaco Asphalts are over 99½% pure bitumen. It is therefore evident that if they are properly handled in melting, there will be no objectionable residue left in the bottom of the melting kettle, since there is nothing to settle.

STABILITY: A superior asphalt must "stay" on the roof after it has been applied. Texaco makes a roofing asphalt for every roofing purpose, and when the recommended grade is properly applied, the owner may rest assured that his roof will not "flow".

CONVENIENT 100-LB. PAPER BAG

Here is the practical way to handle solid roofing asphalt. No fuss, no bother. No chopping. No metal containers to dispose of. Just peel off the bag and the asphalt is ready to use.

Roofers like this convenient 100-lb. paper bag because it's easy to handle. The bag consists of several layers. The inner layer is treated to prevent sticking. The outside layer is made to resist weather and water.

No. 30 and No. 35 Texaco Asphalt are available in this new package—no increase in cost.

WORKABILITY: Men who apply roofing asphalts say that Texaco is best because it is consistently the same . . . that they do not have to make frequent changes in kettle and mopping operations because of non-uniformity.

WEATHERABILITY: This is, after all, the most important qualification of any roofing asphalt. Through constant research, the serviceable life of Texaco Roofing Asphalts is being extended . . . year after year.

RECOMMENDATIONS

The majority of Built-Up roofs are applied where the pitch does not exceed 3". Although Built-Up construction may be used where the pitch or incline exceeds 3", and although some roofs so constructed have given good service, we do not recommend them.

It is obvious that a "Built-Up" roof, often called a "flat roof," is intended primarily for service on a roof deck that is essentially flat. It is equally obvious that the greater the pitch or incline of the deck on which a Built-Up roof is applied, the greater the danger. After long experience and observation we have determined that 3" represents the maximum pitch on which we can recommend the use of a Built-Up roof. Where the pitch exceeds 3", smooth or mineral surfaced roll roofing should be used.

It has also been determined by long experience that a protective covering of gravel or slag, embedded in the flood mopping of asphalt on a Built-Up roof, will greatly lengthen the effective life of the roof. For this reason our Built-Up Specifications require a surfacing of gravel or slag, and we will not recommend any roof not so finished.

The Texas Company markets more than 25 types of solid asphalt. Of these, the types shown in the table opposite are recommended for Built-Up roofs:

TEXACO ROOFING ASPHALTS ARE ALSO AVAILABLE IN 400-LB. CONTAINERS

TEXACO SOLID ROOFING ASPHALTS

	No. 35 Solid Roofing Asphalt	No. 30 Solid Roofing Asphalt	No. 58 Solid Roofing Asphalt	No. 160 Waterproofing Asphalt	Asphalt F.S.B. 150/165	Asphalt F.S.B. 165/190
Code Number	1015	1039	1016	1005	1276	1277
Asphalt Group Number	4	13	10	17	Code 1276 and 1277 Asphalts meet Federal Specifications SS-A-666, Asphalt (for) Built-up Roofing, Waterproofing and Damp-proofing, as follows:	
Melting Point B & R °F	160–175	185–200	125–140	145–170		
Penetration 100 Grams, 5 Seconds @ 77°F.	30–40	25–35	50–60	25–35	Type I Class A	
Solubility in CCl_4, %	99.5 Min.	99.5 Min.	99.5 Min.	99.0 Min.	Type II Grade 1 Class A	Type II Grade 2 Class A
Produced at	Port Neches, Texas Lawrenceville, Illinois Marcus Hook, Pa. Norfolk, Virginia Providence, R. I.	Port Neches, Texas Lawrenceville, Illinois Marcus Hook, Pa. Norfolk, Virginia Providence, R. I.	Port Neches, Texas Lawrenceville, Illinois Marcus Hook, Pa. Norfolk, Virginia Providence, R. I.	Port Neches, Texas	Pt. Neches, Texas Marcus Hook, Pa. Norfolk, Virginia	Pt. Neches, Texas Marcus Hook, Pa. Norfolk, Virginia
Maximum recommended pitch.	Up to 1 inch per horizontal foot.	Up to 3 inches per horizontal foot.	Up to 1 inch per horizontal foot.	Up to 1 inch per horizontal foot.		

No. 160 Waterproofing Asphalt meets Federal Specification SS-A-666, Type III, Class A, Asphalt: (for) Built-up Roofing, Waterproofing and Damp-proofing.

Built-up Roofs applied in accordance with Texaco Built-up Roof Specifications No. 1, No. 2, No. 3 or No. 4 qualify for the Underwriters' Laboratories Class "A" Rating.

SPECIFICATIONS

MINERAL SURFACED ROLL ROOFINGS AND STARTER STRIPS

CODE LETTERS
Indicate whether product is available, from which factories, in what colors, and shipping classification, as follows:

S —Stock Item
Factory Floor Stock Item; available for shipment in any quantity.

SO—Special Order Item
No Factory Floor Stocks; available **only on special order, for direct factory shipment** in minimum quantities of 50 squares of shingles or 100 rolls of roofing, plus overrun up to 10%. Must allow manufacturing time.

Product and Code No.	Colors	Available From: Port Neches, Texas	Port Wentworth, Ga.	Edge Moor, Del.	Lockport, Ills.	Width	Length	Sq. Ft. Mat'l Per Roll	Approx. Ship'g Weight Per Roll	Underwriters' Label	Fixtures Included
TEXACO 90-lb. 2″ Selvage Code 2249	Gray-Green	S	S	S	S	36″	36′	108	90	Yes	Yes
	Red	S	S	S	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	S	S	S	S						
	White	SO	—	—	—						
	Blue Blend	—	—	—	SO						
NUTEX 75-lb. Code 2260	Gray-Green	S	SO	S	SO	36″	36′	108	75	No	Yes
	Red	S	S	S	S						
	Blue-Black	S	S	S	SO						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
TEXACO Double-Coverage 19″ Selvage Code 2256	Gray-Green	SO*	—	S	SO**	36″	36′	108 (covers 51 sq. ft.)	55	Yes	No
	Red	SO*	SO*	S	SO**						
	Blue-Black	SO*	S	S	SO**						
	Forest Green	SO*	SO*	—	SO**						
	Tile Red	SO*	—	S	SO**						
TEXACO 9″ Width Starter Strips Code 2254	Gray-Green	S	S	S	S	9″	36′	27	21	No	No
	Red	S	S	S	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	S	—	S	S						
TEXACO 18″ Width Starter Strips Code 2255	Gray-Green	S	S	S	S	18″	36′	54	42	No	No
	Red	S	S	S	S						
	Blue-Black	S	S	S	S						
	Forest Green	S	S	—	S						
	Evergreen	—	—	S	—						
	Tile Red	S	—	S	S						
TEXACO Diamond Point Code 2252	Gray-Green	S	—	—	S	32″	48′	128	105	Yes	No
	Blue-Black	S	S	—	S						
	Forest Green	S	S	—	S						
	Tile Red	S	S	—	S						
	Green Blend	S	S	—	S						

* 200 rolls minimum. ** 400 rolls minimum shipment, 200 rolls per color.

SPECIFICATIONS

SMOOTH SURFACED ROOFINGS AND ASPHALT SATURATED FELT

Product	Code No.	Weight	Available From: Port Neches, Texas	Port Wentworth, Ga.	Edge Moor, Del.	Lockport, Ills.	Width	Length	Sq. Ft. Mat'l Per Roll	Approx. Ship'g Weight Per Roll	Underwriters' Label	Fixtures Included
TEXACO Smooth Surfaced Talc Finish	2216	Heavy	S	S	S	S	36″	36′	108	55	Yes	Yes
	2217	Extra-Heavy	S	S	S	S	36″	36′	108	65	Yes	Yes
	2218	Super-Heavy	S	S	S	S	36″	36′	108	75	Yes	Yes
TIGER Smooth Surfaced Mica Finish	2226	Medium	S	S	S	S	36″	36′	108	45	No	Yes
	2227	Heavy	S	S	S	S	36″	36′	108	55	Yes	Yes
	2228	Extra-Heavy	S	S	—	—	36″	36′	108	65	Yes	Yes
	2229	Super-Heavy	—	S	—	—	36″	36′	108	75	Yes	Yes
NUTEX Smooth Surfaced Talc Finish	2239	Light	S	S	S	S	36″	36′	108	35	No	Yes
	2240	Medium	S	S	S	S	36″	36′	108	45	No	Yes
	2241	Heavy	S	S	S	S	36″	36′	108	55	No	Yes
TEXACO Asphalt Saturated Felt	2204	15#—4 Sq.	S	S	S	S	36″	144′	432	65	Yes	No
	2206	15#—2 Sq.	—	—	—	S	36″	72′	216	32	Yes	No
	2207	30#—2 Sq.	S	S	S	S	36″	72′	216	65	Yes	No

ROOF COATINGS AND PLASTIC CEMENT

Code No.	Product	Approx. Weight Per Pkg.
1076	Asbestos Fibre Roof Coating	
	55-Gal. Metal Drum*	518
	30-Gal. Metal Drum*	289
	5-Gal. Pail	48
	1-Gal. Pail	57
1034	Liquid Asphalt Roof Coating	
	55-Gal. Metal Drum*	479
	5-Gal. Pail	45
	1-Gal. Pail	54
1077	Plastic Asbestos Roof Cement	
	515-Lb. Metal Drum*	571
	275-Lb. Metal Drum*	312
	50-Lb. Pail	55
	25-Lb. Pail	28
	10-Lb. Pails	46
	5-Lb. Pails	36
	1-Lb. Cans	32

AVAILABLE FROM: Port Neches, Port Wentworth, Lockport and Edge Moor Factories.

*Container has 2″ bung to accommodate force feed faucet.

SOLID ROOFING ASPHALT

Code No.	Product	Packaged	Available From
1015	No. 35 Solid Roofing Asphalt	100-Lb. Paper Bags and 400-Lb. Metal Drums	(See Below)
1039	No. 30 Solid Roofing Asphalt	100-Lb. Paper Bags and 400-Lb. Metal Drums	(See Below)

AVAILABLE FROM: { Factories: Port Neches, Port Wentworth, Lawrenceville, Lockport and Edge Moor.
Terminals: Bayonne, Marcus Hook, Norfolk, Charleston, Tampa, Jacksonville and Mobile.

Don't Overlook the Hundred and One Uses for Texaco Asphalt Roof Coatings and Plastic Cement

★

Around every farm, estate and industrial plant there are innumerable uses for Texaco Asphalt Roof Coatings and Plastic Cement. An application in time may add years of life to many exposed surfaces in these properties.

Protects valuable building investments.

Protects gutters, valleys, flashings.

Renews life of asphalt roll roofing.

Safeguards metal roofs against corrosion.

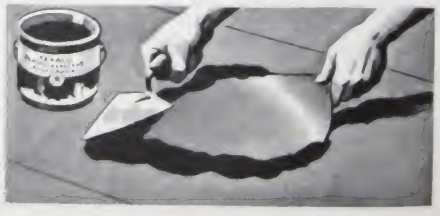
Fills cavities in trees.

Protects farm equipment against corrosion.

Stop leaks around ventilators, skylights, etc.

Waterproofs foundations.

Leakproofs danger points around chimneys.



A patch in time saves many a leak . . later.

Texaco Asphalt Roof Coatings and Plastic Cement

Some manufacturers of asphalt coatings and cement market two or more grades. Frequently the only distinctions between their "First," "Second" and "Third" grade products—apparent to the ultimate consumer—are the "brand" names by which the products are identified, and the prices asked by the Dealer who sells them.

The consumer need never be in doubt when buying TEXACO Roof Coatings and Plastic Cement, however, because The Texas Company *makes but one grade—THE BEST*—fully equal to or better than the best competitive products.

Since preservation and waterproofing are the primary functions of these products, The Texas Company uses selected and tested grades of 99½% pure asphalts in their manufacture. These high-purity asphalts are then "cut-back" with a solvent which acts as a carrier, permitting the product to flow or spread evenly. After the product is applied this solvent readily evaporates.

Asbestos Fibre Roof Coating

A tacky, adhesive asphalt fluid, reinforced with strong asbestos fibres. Waterproofs, restores and renews the life of old asphalt roofing by resaturation. The asbestos fibres form a tough, knit, surface protection against the sun's drying out, destructive, ultra-violet rays.

Smooth surfaced roll roofings should be treated with Asbestos Fibre Roof Coating every two or three years. Under normal conditions this repeated treatment will extend the life of roll roofing indefinitely.

This product stops roof leaks, protects metal surfaces against rust and corrosion and insures a surface protection free from granulating and scaling. It effectively resists corrosive action of mild acid fumes and gases.

Consistency: A heavy but smooth flowing liquid asphalt containing asbestos fibres.

Drying: Dries in approximately 8 hours—depending upon atmospheric conditions—to a black, fibre-grained surface which becomes dull on weathering.

Coverage: Approximately 50 sq. ft. per gallon on smooth surfaced roofing, depending upon its dryness and porosity. Approximately 75 sq. ft. per gallon on clean metal.

Application: DO NOT HEAT! Apply with a stiff brush. Do *not* apply over red lead or oil paint. Surface should be clean and dry before application.

Packages: See "Specifications."

Since the price differential between Texaco Asbestos Fibre Roof Coating and Texaco Liquid Asphalt Roof Coating is usually very slight, the former always should be recommended strongly for application over Asphalt Roofings as it is a superior product for this purpose. Conversely, the Liquid Asphalt Coating serves best where a smooth, non-fibrous finish is desired.

Liquid Asphalt Roof Coating

A heavy but smooth-flowing, 99½% pure, liquid bitumen. Recommended particularly wherever a glossy smooth-finish protective coating is desired, such as on gutters, valleys, bridges, water tanks and troughs, electrical conduits, metal fence posts, farm implements and for temporarily renewing the life of old smooth surface asphalt roofing. Also recommended as a damp-proofing for brick or any porous surface and as a primer for gypsum and concrete surfaces. Forms a durable, waterproof and weather-resistant coating which will not run when exposed to the sun.

Consistency: A heavy but smooth-flowing 99½% pure liquid bitumen.

Drying: Dries in from 1 to 3 days—depending upon atmospheric conditions, thickness of application and porosity of material coated—to a smooth, glossy surface which becomes dull on weathering.

Coverage: Approximately 75 sq. ft. per gallon on smooth asphalt roofing, depending upon its dryness and porosity. Approximately 150 sq. ft. per gallon on clean metal.

Application: DO NOT HEAT! Apply with a brush, mop or spray. For spraying, temperature of product should be between 50° and 100° F. with air pressure not less than 50 lbs. per sq. in. A large size fluid hose and adequate size nozzle should be used.
Do *not* apply over red lead or oil paint. Surface should be clean and dry before application.

Packages: See "Specifications."

Plastic Asbestos Roof Cement

A tough, waterproof, putty-like asphalt plastic containing strong asbestos fibres. Its elasticity permits expansion and contraction in changing temperatures without cracking or crumbling. Sufficiently ductile to make application easy. The asbestos fibre content increases tensile strength. Carefully compounded to insure perfect adhesion and permanence of application.

Indispensable to farmers, home owners, landlords, realty concerns, carpenters, masons, roofers, etc.

Its principal uses are: (1) repairs on every kind of roof; (2) patching and waterproofing around chimneys, vent pipes, skylights, parapet walls, flashings, valleys, gutters and cornices; (3) waterproofing and damp-proofing foundation walls and masonry walls; (4) patching leaks in pails, pipes, tanks, troughs, cisterns, silos, tarpaulins, downspouts, leaders, etc.; (5) laying tile, slate or stone copings; (6) as an expansion joint between sections of cement sidewalks, driveways and building blocks.

Consistency: A heavy, putty-like, waterproof asphalt plastic containing strong asbestos fibres.

Drying: Slow-drying, remains semi-plastic.

Coverage: Approximately 150 sq. ft. per 100 lbs. when applied ⅛" thick.

Application: DO NOT HEAT! Apply with trowel or putty knife to a minimum thickness of ⅛". Should *not* be applied over red lead or oil paint. Surface should be clean and dry before application.

For patching, use a pointed trowel, applying ⅛" to ½" thick at center, graduating to feather edge. For a large patch, use a piece of asphalt roofing, asphalt saturated membrane or strong fabric to cover hole or torn place and seal thoroughly with Plastic Asbestos Roof Cement.

Packages: See "Specifications."

NOW—Let's Take a Good Look at the Basic Ingredient—ASPHALT

Asphalt, which finds its way to most American homes in the form of fire-resistant, mineral-surfaced shingles, had various uses in Biblical times, including the waterproofing of boats, preservation of mummies and construction of the Pyramids.

In modern times asphalt has become increasingly important as a time-tested protection against the elements and its uses have multiplied. Its use for roll roofing was begun in the late 19th Century and within the last three decades asphalt shingles have gained widespread recognition.

Bituminous materials are accepted universally as the oldest and most efficient waterproofing and weatherproofing substances in the world. The Bible states that Noah used them in building the Ark. History and archeological specimens prove that men of many nations have used them through the ages—wherever there was a need for waterproofing.

Today, their primary uses are in the construction of roads and in the manufacture of roofings, but they are vitally important in many other fields, such as waterproof papers, printing inks, insulating compounds, automobile tires, rust preventatives, storage batteries, tennis courts and electrical apparatus.

Although natural asphalts and pitches are thousands of years old, *the asphalt widely used in the commercial world of today is as new as the airplane*, and is produced in pure, unadulterated form from petroleum. It is for this reason that The Texas Company has become an important factor in the Asphalt Industry through the development of uniform, closely-controlled asphalts and asphalt products which set the standards for modern industrial specifications.

This also explains why, in just a few years, petroleum asphalt has largely replaced other bituminous materials. Actually, of the 8,267,300 tons* of Asphalts and Tars used in the United States in 1940, over 79.85% was Asphalt. And of the total quantity of Asphalt used, *OVER 93.5% WAS PETROLEUM ASPHALT.*

The Texas Company has been a leader in the development of petroleum asphalt for more than a quarter of a century . . . and today ranks as one of the largest producers of asphalt—in the world!

*U. S. Bureau of Mines figures.

The Texas Company is one of the World's Largest Producers of Asphalt

This position means a great deal to the critical buyer and user of asphalt roofing products. Such a leading place makes it possible for The Texas Company to select and use only those asphalts which are ideal as saturants and coatings for asphalt roofings.

In other words, picking and choosing the most suitable ingredients for its products are not always the privilege of a manufacturer. Texaco enjoys that privilege and so you enjoy the advantages of superior roofings.

A battery of cracking units used in the manufacture of Texaco Asphalt. This plant is devoted to the development and manufacture of asphalt products.

How TEXACO Can Help YOU

Texaco is one of the nation's most widely accepted product names—known to millions, among whom are prospective roofing and home buyers everywhere.

How Texaco Can Help You Sell Houses

One of the most visible, single elements in any house is the roof. That roof is mighty important in the eyes of prospective home buyers. It must measure up to a number of standards. Among them, beauty in color and design (for the woman), weather and fire protection (for the man). But just as important as these physical factors and direct benefits—is the *name* of the roofing material.

Today folks don't buy out of the old, nameless cracker barrel. They want to see and know what they are buying. Today people know the trade names of building materials. Years of national advertising have built up this knowledge and acceptance for well known brand names.

When you set out to sell a home you point, proudly enough, to the furnace, the kitchen cabinets, the plumbing fixtures and to other features you know will establish a high regard for the home, for your construction and equipment standards.

So with the roof, you can point proudly to the roof and say "it's Texaco." Millions of people know the name "Texaco." Buyers are quick to accept the fact that Texaco on the roof is good building on your part, sound buying on theirs.

Display This Job Sign

When you are putting on a Texaco asphalt shingle roof—say so. Put up this Texaco Job sign—to tell all who pass by that you are using a well known, top quality, trade-marked roofing. Displaying this sign on every job is a valuable form of outdoor advertising and it costs you nothing. Texaco Job signs are available from your local Texaco Roofing Dealer.

★ MILLIONS KNOW TEXACO ★

How TEXACO Can Help You To Keep Satisfied Customers

A roof is a long-time investment by the home owner in security and protection—plus an investment in pride for the appearance of his home.

Texaco can help you deliver these benefits by supplying you with the type of roofing that stands up.

Texaco can help you by backing your own reputation for good building with the name of Texaco on the roof, and with the reputation of The Texas Company for standing behind its products.

How TEXACO Can Help You To Maintain "On-Schedule" Operations

Texaco has the advantage of hundreds of warehouse stocks throughout the country. These stocks permit The Texas Company to offer its dealers unparalleled service in the delivery of roofing materials where and when wanted.

This great network of warehouses is supplied by well located, modern roofing plants.

Consultation and Advice

Texaco can help you with your roofing problems, just as Texaco steps in and assists on the lubrication problems of transportation and industry.

TEXACO Offers You the Most Popular Type of Roofing in America Today

Asphalt is the fastest selling roofing in America today, outselling all other types combined almost 2 to 1—outselling the next best seller 5 to 1.

★

Constant research, development and improvement plus the inherent characteristics and benefits of asphalt roofing have made it the most popular and the most used.

★

Only asphalt roofing products suit every roofing purpose and provide the 10 essential benefits of a good roof—and are acceptable to the most people because of their economy in original cost, in application and long life.

★

Asphalt shingles and roofing today are the highest ever in quality, the lowest ever in cost—averaging one third less than twenty-years ago.

★

Texaco is one of the world's largest producers of asphalt and asphalt products. Today Texaco makes the finest asphalt roofing products in its 32 years of roofing manufacture.

★

All Texaco Asphalt Roofing Products are manufactured under strict engineering standards and control.

★

A house is no better than its roof. Builders choose Texaco because millions know the name TEXACO and its reputation for quality products. This is a one word sales argument that stands up.

★ MILLIONS KNOW TEXACO ★

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TEXACO ASPHALT ROOFING PRODUCTS ARE AVAILABLE IN AREAS SHOWN—EAST OF THE ROCKIES

TEXACO

REG. T.M.

THE TEXAS COMPANY

DISTRICT OFFICES

ATLANTA, GA.	133 Carnegie Way
BOSTON, MASS.	20 Providence Street
BUFFALO, N. Y.	14 Lafayette Square
CHICAGO, ILL.	332 So. Michigan Avenue
DALLAS, TEX.	2310 So. Lamar Street
DENVER, COLO.	910 16th Street
HOUSTON, TEX.	720 San Jacinto Street
MINNEAPOLIS, MINN.	706 Second Ave., South
NEW ORLEANS, LA.	919 St. Charles Street
NEW YORK, N. Y.	205 East 42nd Street
NORFOLK, VA.	Olney Rd. & Granby St.

Texaco Roofing Products Are Also Sold by

INDIAN REFINING CO.

3521 E. Michigan St., Indianapolis, Ind.


TEXACO
TEXACO
Asphalt Shingles
and ROOFING
THE TEXAS COMPANY